THE

physical therapy

REVIEW

Volume 35 - Number 3 March 1955

Education for Childbirth
With Emphasis on the Role of the Physical Therapist
— FLANAGAN, HENEAGE, and ASHE

Parent Instruction and Home Programs for the Cerebral Palsied — KORTEMEYER

Fibrositis and Non-Articular Rheumatism — GRAHAM

Fabricated Weight Cart — PETH

Chapter Directory

PUBLISHED MONTHLY BY
THE AMERICAN PHYSICAL THERAPY ASSOCIATION

It's Portable!

Jacuzzi WHIRLPOOL BATH

Model J-300
PATENT
PENDING

Doubles usage... halves the cost

Versatile and economical . . . one unit serves all therapy tanks or bathtubs.

Adaptable. Can be placed in tank wherever needed for most beneficial effect. No clamps or bolting necessary.

Effective: Its ⅓ h.p. motor puts out forty-five gallons of churning, aerated water per minute! Force and direction of flow quickly, easily adjustable to patients' specific needs. No maintenance or extra plumbing required. Compact. Weighs only 25 lbs.

Proven: Developed and tested through seven years of research under supervision of physicians.

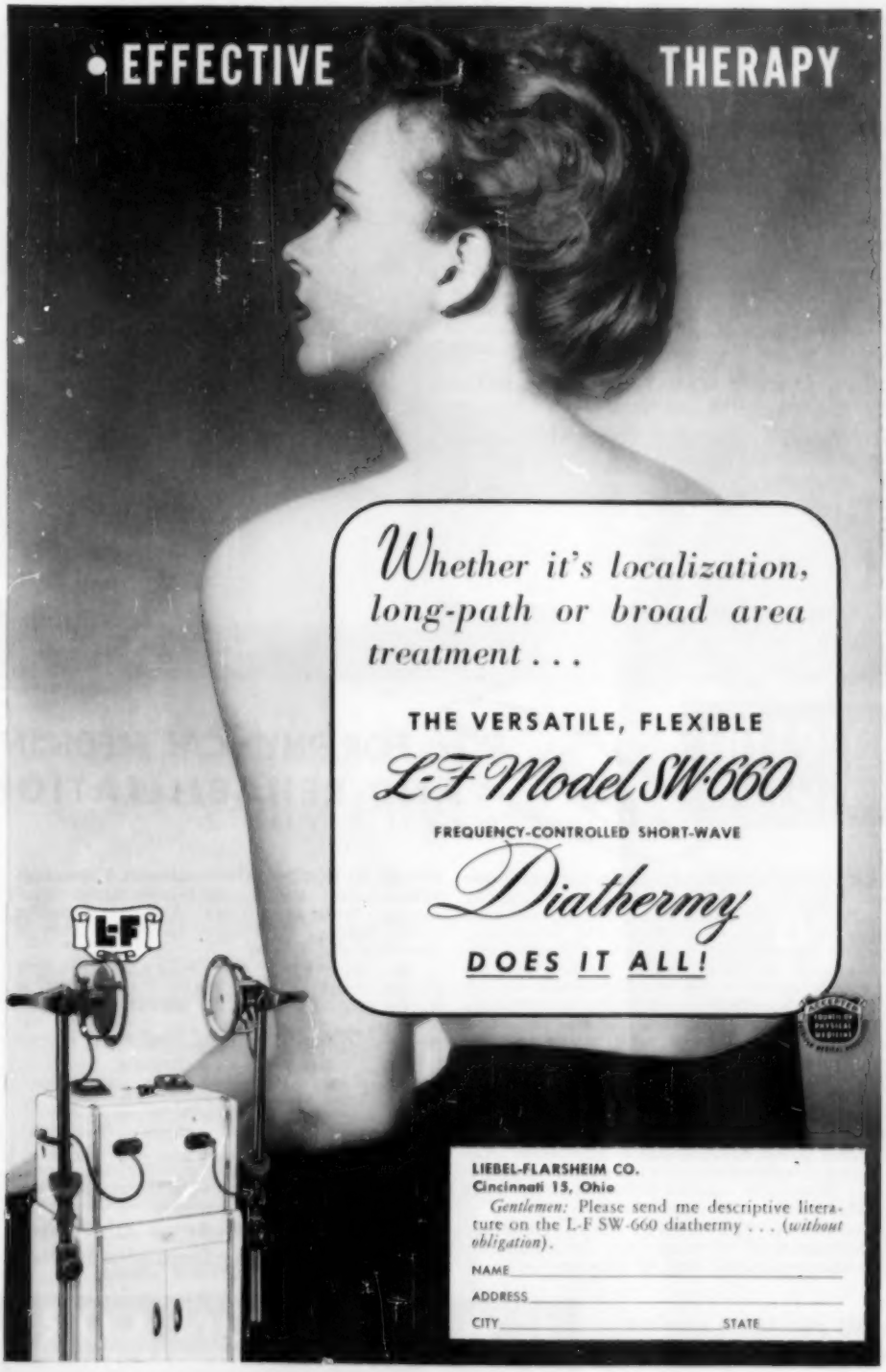
Safe: Accepted and fully approved for professional use by Underwriters Laboratories.

Jacuzzi WHIRLPOOL BATH

JACUZZI BROS. INC.
Hydrotherapy Division
1450 San Pablo Avenue • Berkeley 2 • California

Write for illustrated bulletin giving full details.

Made by the originators of the injector-type water system


• EFFECTIVE THERAPY
Whether it's localization, long-path or broad area treatment . . .
THE VERSATILE, FLEXIBLE
L-F Model SW-660
FREQUENCY-CONTROLLED SHORT-WAVE
Diathermy
DOES IT ALL!
L-F
LIEBEL-FLARSHEIM CO.
Cincinnati 15, Ohio
Gentlemen: Please send me descriptive literature on the L-F SW-660 diathermy . . . (without obligation).
NAME
ADDRESS
CITY
STATE

DAKON

WHIRLPOOL TANKS

DAKON TANKS are available in many models, to completely cover the hydrotherapy field. Send for complete catalogue.

ELECTRIC TURBINE EJECTOR delivers 55 gallons of water per minute at a velocity of 3000 linear feet per minute. Built-in aerator mixes approx. 20,000 cubic inches of preheated forced air into ejected stream. Intensity of water and air may be varied from zero to maximum.

TURBINE EJECTOR ELEVATOR positions turbine at any level in tank, swivels from side to side.

THERMOSTATIC WATER MIXING VALVE delivers up to 20 gallons per minute in temperature range from cold water to 110° F.

Illustrated, Model PST stationary arm, leg and hip tank.

for complete information

EAST COAST
DAKON COMPANY
1836 Gilford Ave., New Hyde Park, N.Y.

WEST COAST
ROLAND J. GAUPEL CO.
1014 North La Brea Ave., Los Angeles 38, California

PRESTON

A Complete Line

FOR PHYSICAL MEDICINE AND REHABILITATION

REHABILITATION: **Walking Parallel Bars** and **Exercise Staircases** of various designs; Posture Mirrors, single and triple; **Gymnasium Mats** in various thicknesses and coverings; **Bicycle Exercisers;** Restorator; **Progressive Resistance Exercise Units;** Quadriceps-Gastrocnemius-Footdrop Boots; Dumbbells; Indian Clubs; **Wall Pulleys;** Door Pulley Assemblies; **Guthrie-Smith Suspension Apparatus;** Stall Bars; **Shoulder Wheels** with height adjustment; Manuflex; Kanavel Table; **Sayre's Headslings;** Ankle Exercisers; Treatment Tables; Timers.

HYDROTHERAPY-ELECTROTHERAPY: **Whirlpools** for every use; Hubbard Tanks; **Paraffin Baths; Hydrocollator;** Shortwave Diathermy; Galvanic-faradic-sinusoidal Generators; Ultraviolet Lamps; **Infra-red Lamps and Bakers; Ultrasonic Generators.**

DIAGNOSTIC APPARATUS: Chronaximeters; Dynamometers; Goniometers; Oscillometers; Thermocouples and Skin Thermometers.

INVALID EQUIPMENT: **Everest & Jennings Wheelchairs;** Hollywood Wheelchairs; Commodes; **Walkers;** Patient Lifters; **Standing (Tilt) Tables;** Stretchers; Large selection of **Crutches and Canes.**

COMPLETE LINE OF CEREBRAL PALSY FURNITURE AND EQUIPMENT—SPEECH THERAPY—SELF-HELP DEVICES.

New Items of Interest

Literature Upon Request

Guthrie-Smith Universal Sling Suspension Apparatus, Standard and Portable Models; complete with all springs, ropes, pulleys, slings, etc. **$295.00**

Standing Table, manually operated; movable footrest; tilts up to 70°. Supplied with safety belts. Price including casters.. **$190.00**

Write for Free Copy of Illustrated Catalog No. 1054—Inquiries Invited

ALL your needs supplied by ONE reliable source

J. A. PRESTON CORP.
175 FIFTH AVENUE, NEW YORK 10, N. Y.

Your Three Roles as an Army Physical Therapist

• You play *three* roles as an Army Physical Therapist—and star in each!

• In your first role you serve *humanity*. You work in modern, well-equipped Army hospitals with a top group of dedicated professional men and women. Your performance is further enhanced by fine specialized experience in the latest techniques and developments of your field.

• In your second role you serve your *country*. You wear the uniform of an Army officer and enjoy all the privileges and prestige of military status. Your insignia mark you as one who uses her professional skills for the *direct* benefit of the nation.

• In your third role you serve *yourself*...with the many exciting opportunities for personal development that come to an officer in the Women's Medical Specialist Corps. You have a chance to travel, meet interesting people, and extend your social horizons. And you have the leisure to enjoy these things—with a yearly 30 day paid vacation.

• Make your career personally and professionally complete. Star in all three roles as an Army Physical Therapist—serving humanity, country and self. For full details, fill out the coupon below.

Women's Medical Specialist Corps

U.S. ARMY MEDICAL SERVICE

MAIL THIS COUPON TODAY — PSS-1

The Surgeon General, United States Army
Washington 25, D. C.
Attn: Personnel Division

Please send me further information on my opportunities as a Physical Therapist in the United States Army.

☐ *Check if also interested in training opportunities.*

Name _____

Address _____

City _____ **State** _____

THE physical therapy REVIEW

112 Vol. 35, No. 3

published monthly by the
American Physical Therapy Association
at 1790 Broadway, Room 310
New York 19, N. Y.

Editor-in-Chief: E. Jane Carlin

Associate Editor: Beatrice Whitcomb

Managing Editor: Carol Vance

Assistant Editors: Helen Hislop, Mary E. Kolb, Ruth M. Latimer, Kathryn Shaffer

Membership in the American Physical Therapy Association is $20.00 a year, including a subscription to THE PHYSICAL THERAPY REVIEW. Subscriptions for nonmembers to THE PHYSICAL THERAPY REVIEW, $6.00 a year; $6.75 in Canada and foreign countries. Single copies 75 cents. (50 cents to members.) Reentered as second class matter August 11, 1949, at the post office at New York, N. Y., under the act of August 24, 1912

The statements in the manuscripts published in THE PHYSICAL THERAPY REVIEW are made solely on the responsibility of the author. The American Physical Therapy Association does not assume any responsibility for statements contained therein. Manuscripts accepted for publication in THE PHYSICAL THERAPY REVIEW are for exclusive publication and may not be published elsewhere without permission.

Officers

President ..... Mary E. Nesbitt
Vice-President ..... Lucille Daniels
Secretary ..... Dorothy Graves
Treasurer ..... Dorothy Hoag
Speaker, House of Delegates ..... E. Jane Carlin

Directors

Dorothy Fredrickson .....Nashville, Tenn.
Harriet S. Lee ..... Washington, D. C.
Sarah Rogers ..... New Orleans, La.
Mary Clyde Singleton ... Warm Springs, Ga.

Advisory Council

Amos Christie, M.D. ..... Nashville, Tenn.
William T. Green, M.D. ..... Boston, Mass.
Charles C. Letourneau, M.D. .... Chicago, Ill.
Raoul Psaki, Lt. Col., MC . . San Francisco, Calif.
Aura T. Severinghaus, Ph.D. . . New York, N. Y.
Arthur Watkins, M.D. ..... Boston, Mass.

National Office Staff

Executive Director ..... Mildred Elson
Associate Executive Director .. Mary E. Haskell

Educational Services
Dorothy R. Hewitt
Helen Hickey Elizabeth MacAuley

Professional Services
Lucy Blair Ruth Whittemore

Table of Contents:

Education for Childbirth with Emphasis on the Role of the Physical Therapist—Eleanor Flanagan, Jacqueline Heneage and John R. Ashe, M.D. 121

Parent Instruction and Home Programs for the Cerebral Palsied—Joy Kortemeyer . 125

Fibrositis and Non-Articular Rheumatism—Wallace Graham, M.D. 128

Fabricated Weight Cart—Lillian Peth . . 133

Mnemonics in Physical Therapy—Helen Mackler, M.D. 135

Editorials 136

Association Activities 137

Conference 1955 140

Student Section 144

General News 149

Index to Current Literature 150

Physical Therapy Programs—1955 . . . 151

Abstracts 153

Book Reviews 158

Chapter Directory 161

Our Book Reviewers for March 164

Publications and Reprints 118

Available in a Microfilm Edition

TECA

one name for every need in low-volt therapy

You can always expect the important instrument developments to come from Teca . . . pioneers in the design of generators for low-volt therapy and electro-diagnosis. Teca units employ superior modern electronic circuitry, offer currents with minimal sensation . . . are unequalled for simplicity of operation, durability and efficiency. For complete details on the instruments shown, as well as utility units, hydro-electric, and special electro-diagnostic equipment, write today.

SP2 PORTABLE LOW-VOLT GENERATOR – affords complete flexibility in muscle stimulation and ion-transfer therapy – provides variable frequencies, variable surge rates and continuous DC. Effective stimulation with minimum sensation. Features simple operation . . . lifelong durability.

ELECTRO-DIAGNOSTIC INSTRUMENT CH3 (chronaxie, strength duration curves, R.D. Tests, etc.)–Eliminates tedious, time-consuming adjustments . . . affords complete operating simplicity and precision. Special new electronic control circuits (pat. pending) automatically compensate for instrument and patient variables . . . assures repeatable results!

SP5 TWO-CIRCUIT GENERATOR – compact, complete unit has impressive features found in larger Teca instruments–independent AC-DC or simultaneous use of both. Useful for denervated muscle treatment.

FOR THE SPECIALIST OR LARGE DEPARTMENTS
NEW IMPROVEMENTS – NEW FEATURES

CD4P TWO-CIRCUIT GENERATOR–Has AC and DC circuits . . . answers every low-volt therapy need. Provides pulse, sine and square stimulating current wave forms essential to a department using all phases of low-volt therapy.

CD7 TWO-CIRCUIT GENERATOR – the finest and most complete low-volt generator available.

New complete portable generator

New ease and precision in electro-diagnosis

Ideal for office or hospital

TECA CORPORATION

80 MAIN ST. • WHITE PLAINS, N. Y.

GENTLEMEN:

☐ Send information on Model _____

☐ Would like demonstration of Model _____

☐ Send Low-Volt Therapy Booklet

NAME _____

ADDRESS _____

CITY _____ ZONE ____ STATE _____

BY _____

EFFECTIVE
MOIST HEAT
EASILY APPLIED
HYDROCOLLATOR

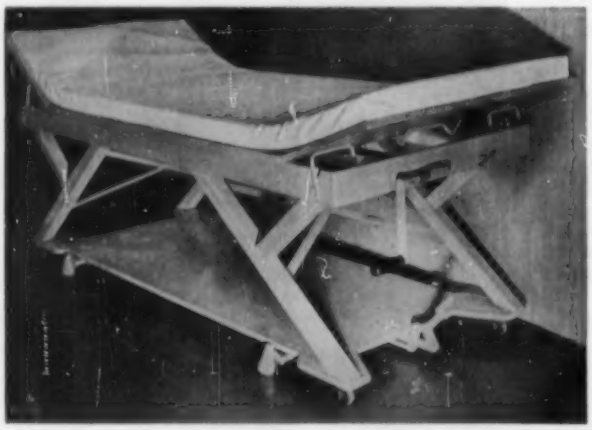
Steam PACK

Everyone agrees moist heat is most effective in reducing spasm and pain. Now it can be easily and efficiently applied! Hydrocollator Steam Packs require no wringing, won't drip, are easy to prepare and handle. In use in leading hospitals and treatment centers.

ACCEPTED BY THE COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION (AMA)

WRITE FOR DESCRIPTIVE FOLDER

CHATTANOOGA PHARMACAL COMPANY, INC.
CHATTANOOGA 5, TENNESSEE



YOUR
TREATMENT TABLE
IS INDISPENSABLE

Does it meet your needs?

THE
TERRY TABLE
ADJUSTS
TO YOUR HEIGHT
AND YOUR TECHNICS

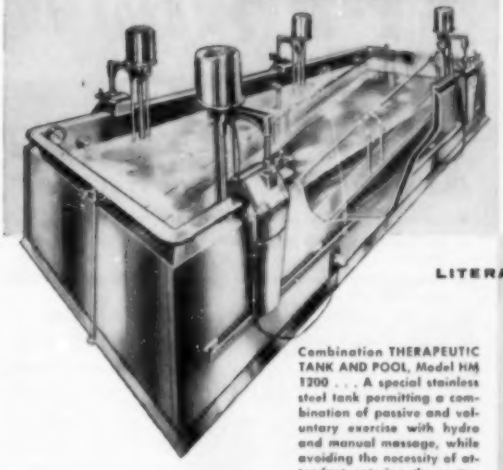
Give Number One Priority To Selecting
Your Number One Piece Of Equipment

PHYSICAL THERAPY EQUIPMENT INC.

1706 Geddes Ave.,
ANN ARBOR, MICHIGAN

ILLE

ENGINEERED for efficient, economical service



Combination THERAPEUTIC TANK AND POOL, Model HM 1200 . . . A special stainless steel tank permitting a combination of passive and voluntary exercise with hydro and manual massage, while avoiding the necessity of attendant entering the water.

Combination ARM, LEG AND HIP TANK, Model HM 601 . . . Stationary, stainless steel unit for hydromassage and subaqua therapy. Water mixing valve is thermostatically controlled.

LITERATURE ON REQUEST

Hudgins MOBILE SITZ BATH, Model SB 100 . . . For hospital, clinic or office use . . . sturdy stainless steel and aluminum . . . easy to clean and assemble. Electric heater (optional) maintains temperature of solution.

ILLE ELECTRIC CORPORATION
50 MILL ROAD, FREEPORT, L. I., N. Y.

ANNOUNCING

the New Medi-Sonar Portable

ULTRASONIC GENERATOR

This unprecedented new Model 1100 *PORTABLE* MEDI-SCNAR Ultrasonic Generator is unquestionably the finest instrument available anywhere at any price. Its claim to *absolute superiority* rests in several extremely important factors, most of which are exclusive with Dallons. Its incomparable quality gives more dollar-for-dollar value... more power, better control, finer engineering. Price, complete **$535.00 f.o.b. Los Angeles**

Dallons 1st IN ULTRASONICS

- "Console" quality and output at "portable" prices.
- Guaranteed minimum output total of 20 watts—Actual output, not just rated.
- Larger precision-ground quartz crystal—10 sq. cm.
- Specially designed safety transducer.
- Dual-scale meter for "at-a-glance" direct reading of total watt output and watts per sq. cm.
- Stepless output control for accurate dosage duplication.
- Even distribution of energy at low temperatures in full cylindrical pattern.
- Resonance control for positive tuning under all conditions.
- All metal, well ventilated, case with protective cover.
- Written one year guarantee on both machine and transducer.
- Made under U.S. Patents, U/L inspected and approved, CSA approved, and Certified under FCC regulations.

For Professional Literature, Write

DALLONS LABORATORIES, INC.

5066 Santa Monica Blvd., Los Angeles 29, Calif.

to
ACTIVELY and
DIRECTIONALLY

Move fluids in the Extremities

the *Vaso-Pneumatic*

OPERATE DISTALLY:
To increase arterial blood flow.

OPERATE PROXIMALLY:
To increase venous and lymphatic return.

A series of quickly applied Neoprene cuffs are automatically inflated and deflated to produce a band of pressure that progresses up or down the arm or leg with a PERISTALTIC MOTION.

Usual treatment time 15 minutes.

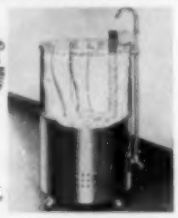
Send for further information

POOR & LOGAN MFG. CO.
7319 VARNA AVE., NORTH HOLLYWOOD, CALIF.

Get to know
the f-r* Factor in
ROCKE
HYDROTHERAPY BATHS
*"FAST RELIEF"

- Circulation on all sides of submerged member.
- Horizontal and Vertical action—follows the Circulatory system.
- Twin turbines provide equal controlled turbulance throughout tank.
- No obstructions. All motors enclosed beneath tank.
- Quiet, Compact, Mobile. No installation problems.

Write for detailed literature.



Wm. ROCKE CO.
P.O. Box 623
Bloomington 3, Illinois

for sound professional education
in
Physical Therapy
School of Education

New York University

Four year curriculum leading to
Certificate in Physical Therapy
and
Bachelor of Science Degree

Approved by
American Medical Association
and
New York State Education Department

Graduate program leading to
Master of Arts Degree

NOW . . .
MEDCO COMBINES BOTH SIMPLICITY AND UTILITY IN THE

Medcolator®

MODEL K

WITH

RECIPROCAL STIMULATION

$295.00

An adjunct therapy for sprains, strains, dislocations, other trauma of the muscle and skeletal system. The MEDCOLATOR Model K combines the Simplicity of Model 50 with the Utility of Model 50B.

WRITE
For Your FREE
Pad Placement
COLOR CHART
For Wall Hanging

MEDCO PRODUCTS CO.
3603 East Admiral Place • Tulsa, Oklahoma

Medco Products Co.
Mail Address: P. O. Box 3275-P
3603 E. Admiral Pl. • Tulsa, Oklahoma

- ☐ Please send Pad Placement Color Chart.
- ☐ Please send MEDCOLATOR Model K with Reciprocal Stimulation for 30 day FREE trial.
- ☐ Please send descriptive literature on MEDCOLATOR Model K.

NAME_____

ADDRESS_____

CITY_____ STATE_____

Serving the Profession Since 1932

Publications and Reprints

RECRUITMENT

Physical Therapy — A Service and a Career, 1953 — An illustrated brochure with information for prospective students about physical therapy, the course of study, and opportunities for a career.

Schools of Physical Therapy — A list of schools approved by the Council on Medical Education and Hospitals of the American Medical Association.

Job of the Physical Therapist — A complete description of what the physical therapist does, where he works, how he functions in the professional field, and worker characteristics.

ORGANIZATION

Code of Ethics of the American Physical Therapy Association.

Personnel Policies for Physical Therapists.

Use of Nonprofessional Personnel — An illustrated pamphlet to assist the physical therapist to determine the need for nonprofessional personnel and to give guidance on inservice training and utilization.

Approved Schools and Courses of Physical Therapy 1928-1954.

Essentials of a Hospital Department — Physical Therapy (To members 25¢).

State Registration of Physical Therapists — Abstracts of state laws regarding registration of physical therapists.

A Bibliography on Supervision — Beatrice E. Whitcomb, Major, WMSC (15¢)

A Guide for the Chief Physical Therapist: Organizational Responsibilities — Margaret L. Moore (15¢)

SCIENTIFIC REPRINTS

Active Games for Physically Handicapped Children — Gump and Yuen-Hung Mei (10¢)

Physical Therapy in Medical Diseases of the Chest — Evelyn A. May (10¢)

Physical Therapy in the Early Care of Cold Injuries — Mary E. Sacksteder, Capt., WMSC (10¢)

Administration of a Community Rehabilitation Center — Hazel E. Furscott (10¢)

Evaluation of Strength and Motor Development in Infants — Elizabeth Zausmer (20¢)

Physiology of the Heart and Circulation and Its Clinical Application in Physical Medicine — a bound edition of papers by nine authors with an introduction by Harry D. Bouman, M.D., Coordinator. (50¢)

Physical Therapy Program for the Upper Extremity Amputee — Hyman Jampol (10¢)

Reading References for Electrical Diagnosis and Electrical Stimulation (10¢)

Plan and Specifications for an All-Welded Steel Treatment Pool (No Charge)

VISUAL AIDS

The following visual aids are available on loan to members and chapters upon request. They should be requested one month in advance of the date to be shown and return shipping costs must be paid by the borrower.

Recruitment

Within Your Hands — Black and white 17½ minute sound picture depicting the education and opportunities for the profession of physical therapy. Each chapter (and district) also has a copy of this film. A special 14½ minute version for telecasting is available from the National Office.

Physical Therapy, A Career of Science and Service — A color filmstrip to interpret physical therapy to high school students and lay groups. Each chapter (and district) has a copy of this and additional copies may be purchased from the National Office at $4.50 per print.

Professional

Movies

Peripheral Nerve Injuries (Upper Extremity) — Two reels black and white, silent.

Physiotherapy in Chest Conditions (Asthmatic Children) — Black and white, silent, made in England.

Slides

Underwater Exercise — A set of 26 Kodachrome slides made at the Orthopedic Hospital in Los Angeles describing equipment and technics of underwater exercise.

Peripheral Nerve Injuries, Upper Extremity — A set of 15 black and white slides showing examples of upper extremity nerve injuries. These slides require a projector that will take slides size 3¼ by 4 inches.

Special Issues of the Review

Polio Issue (July 1951) (25¢)

Polio Issue (July 1952) (25¢)

Polio Issue (July 1953) — 50¢ (10 to 50, 35¢; 50 or more, 25¢)

Cerebral Palsy Issue (February 1952) (25¢)

Abstracts Reprinted

"Haltung," an Abstract from Body Posture by Magnus, and "Head Posture and Muscle Tone," Clinical Observations by A. Simons, abstracted by Signe Brunnstrom, have been reprinted in one pamphlet.

Reprints can be ordered from the American Physical Therapy Association, 1790 Broadway, New York 19, New York. The cost of the pamphlet containing both abstracts is $1.00.

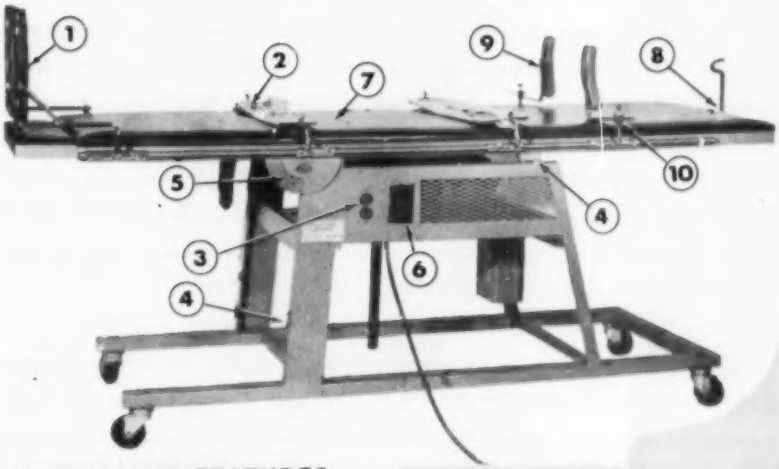
All requests should be addressed to
American Physical Therapy Association
1790 Broadway, New York 19, New York

NEW CONVENIENCE for the THERAPIST
BETTER EXERCISE for the PATIENT

La Berne

WALKOFF

PHYSICAL THERAPY TABLE



IMPORTANT FEATURES:

1. Adjustable foot board
2. Adjustable restrainer straps
3. Push button switch
4. Safety switches
5. Calibrated dial for degree of tip
6. Receptacles for auxiliary equipment
7. Table top sponge rubber with easy-to-clean plastic cover
8. Adjustable cervical traction holder
9. Adjustable crutch
10. Crutch width adjustment
    Adjustable arm slings

With the LaBerne Table patients can be handled by one attendant. A task that was formerly difficult even for a team. Patients benefit from more effective exercises, added confidence. Write for illustrated brochure to:

Simple push button control adjusts table to any degree of tilt from .0 - 90°.

La Berne MANUFACTURING COMPANY
P. O. Box 5245, Columbia, South Carolina

ON CRITICISMS AND MOUSE TRAPS

In December, January and February similar editorial advertising appeared in this magazine over my signature. Quite a number of Therapists have dropped a note of favorable comment. One (name unknown) has seemed to feel that in pointing out the failure of so many to know and recognize the stature of the Physical Therapist and suggesting that the Therapist let the world know of his background and work, I am encouraging bad relations between the Physician and the Therapist. I cannot for the life of me follow this person's reasoning. I can only respond by a quotation from John Milton: "He who freely magnifies what hath been nobly done, and fears not to declare as freely what might be done better, gives ye the best covenant of his fidelity."

One chap wrote to me that he read the January copy in a Physician's waiting room and by it was inspired to take up the profession. He wanted to know where there was an approved school of physical therapy.

A nationally known Physiatrist simply tore out the page from a magazine, wrote on the margin, "Well done, Cecil," initialed and mailed it to me.

I subscribe to the principle that the world will make a pathway to the door of the better mouse trap maker, but only provided he lets the world know about it. The professional Physical Therapist will gain his due recognition only as he acquaints associated professions and the laity with the emblem at the top of this page and all that it represents. The fine mouse trap you now make in itself is not enough.

Now laboring in my thirtieth year of providing electrical tools for the skilled hands of the Physical Therapist, I have never heretofore observed a new method so enthusiastically received and employed as Ultrasonics. Daily by telephone and mail from Physicians and Therapists most amazing reports are received. Don't be "down on" what you are not "up on." If you would like a batch of reprints on Ultrasonic energy as employed in medicine they are yours for the asking.

Cecil Bircher
PRESIDENT

Birtcher
WORLD'S LARGEST VOLUME PRODUCER OF ELECTRO-MEDICAL-SURGICAL DEVICES
4371 Valley Boulevard, Los Angeles 32, California

The Physical Therapy Review

Official Publication of The American Physical Therapy Association

Vol. 35 March 1955 Number 3

Education for Childbirth*

With Emphasis on the Role of the Physical Therapist

Eleanor Flanagan, A.B., Jacqueline Heneage, B.S., and John R. Ashe, M.D.

Since April 1953, a prenatal training program for public obstetrical patients has been in existence at Duke Hospital, a large general hospital in Durham, North Carolina. This program, designed to improve prenatal care and to educate the pregnant woman for a more nearly normal and emotionally satisfying childbirth, consists of three phases: lectures, exercises, and support during labor. Of extreme importance to the proper and efficient functioning of the various facets of this program is the cooperative effort of all hospital personnel involved. It is the purpose of this paper to describe, in detail, the role of the physician, the nurse, and the physical therapist in this educational endeavor.

Routine prenatal care, including an initial general workup of the patient and frequent prenatal checks, is the first and most generally accepted duty of any obstetrician. In our prenatal program, the physician assumes further responsibilities. As part of the lecture phase, the obstetrician plans and conducts a series of two classes for expectant mothers. The first of these classes is attended by prenatal patients as soon after their first clinic visit as possible, and consists of a discussion of the anatomy and physiology of reproduction. Here the physician attempts to allay the fears so often present in the mind of the expectant mother—fears which in many instances are solely the product of ignorance and misconception. The role of fear in the production or magnification of tension and pain, during pregnancy, labor, and delivery, is thoroughly discussed with the patients. Supplementing this lecture are lantern slides and motion pictures, and in attendance with the physician are a nurse and a physical therapist. During their last trimester, the patients return for a class designed to acquaint them in more detail with the anatomy and physiology of labor and delivery. At this time, the signs, symptoms, and stages of labor are discussed and a motion picture of a normal birth is shown. Here, too, the patient is given a résumé of analgesic and anesthetic agents available to her, if she wishes, during her labor and delivery. During both these lectures, the importance of prenatal exercises is stressed and the patients are encouraged to participate in the classes held in the Physical Therapy Department.

The nurse participates in two phases of this program: lectures and support during labor. In a class attended by prenatal patients during the second trimester of their pregnancy, a nurse discusses the hygiene of pregnancy, prenatal diet, care of the newborn, formula preparation, and

Eleanor Flanagan and Jacqueline Heneage, Department of Physical Therapy, Duke Hospital, Durham, North Carolina.

John R. Ashe, M.D., formerly Duke Hospital staff member in Department of Obstetrics and Gynecology. In private practice in Charlotte, North Carolina.

* Presented at the Research Section, Annual Conference of the American Physical Therapy Association, Los Angeles, June 1954.

Figure 1

the advantages of breast feeding and of the rooming-in plan. During this class, as with those conducted by the obstetrician, questions are invited and answered as completely and carefully as possible. Following the last class given by the physician, the patients are conducted on a tour of the hospital obstetrical ward by the nurse. Here they are introduced to the personnel, familiarized with the ward set-up, and shown the Labor and Delivery Rooms. Following delivery, usually one day prior to discharge, each public patient attends a class conducted by the nurse, at which time hygiene, formula making, and general postpartum care of mother and baby are discussed. At the completion of this class, the physical therapist instructs the patient in a series of postpartum exercises designed, in part, to improve posture, increase circulation, and strengthen abdominal musculature.

The nurse and the physician play major roles in the psychological and physiological support of the patient during labor. A poorly conducted labor can readily negate any preparation that the expectant mother may previously have received. During labor the patient should be informed of her progress at all times, given encouragement—but not oversympathy—and not be permitted to remain alone. Loneliness often leads to the development of panic and fear. By maintaining an air of friendliness, patience, personal interest, and tranquility, much can be done to reassure and encourage the patient. The emotional aspects of pregnancy and labor must be well known to all personnel in contact with the patient. At this time, exercises, taught earlier to the expectant mother by the physical therapist, are to be practiced.

The physical therapist's contribution to this educational program has two aims: postural training exercises for correct carriage during pregnancy, and specific exercises which will be employed during the three stages of labor. Ten to twelve women attend each class. Preferably, these exercises are started in the first trimester of pregnancy. Since patients usually cannot attend more than three classes, great emphasis is put on home practice, with their returning at least twice to review their methods and progress. For this reason only a limited number of exercises are taught and these are checked at each return visit.

There is a tendency in pregnant women, due to the extra weight of the fetus, to throw the abdomen forward, letting the pelvis tilt downward, increasing the lumbar curve and creating the so called "sway back." To offset this tendency, the physical therapist teaches several pelvic tilting and pelvic rocking exercises. Lying on the back with knees bent, the patient tightens the lower abdominal and buttock muscles so that the back is flattened and the pelvis is tilted upward. When the patient has mastered this exercise with the knees bent, the same thing is attempted with the knees straight. Then standing against the wall, heels four inches from the wall and three inches apart, the patient practices pelvic tilting and maintaining the tilt while she walks away from the wall. The purpose of these exercises is to create an awareness of good carriage so that the patient moves more easily and gracefully, to strengthen the abdominal muscles, and to avoid fatigue and low back strain resulting from an increased lumbar curve. The pelvic rocking is practiced in two positions, on the hands and knees, and sitting on a chair with the knees apart. In the first position, the patient ducks her head and tightens the hip and abdominal muscles to hump the lumbar spine, and then relaxes to raise the head and hollow the lumber spine (Figure 1). Position two (Figure 2), sitting on the edge of a chair, knees apart, the patient rocks the pelvis forward and backward using the same muscles as in the pelvic tilt to control the position of the pelvis. Both rocking

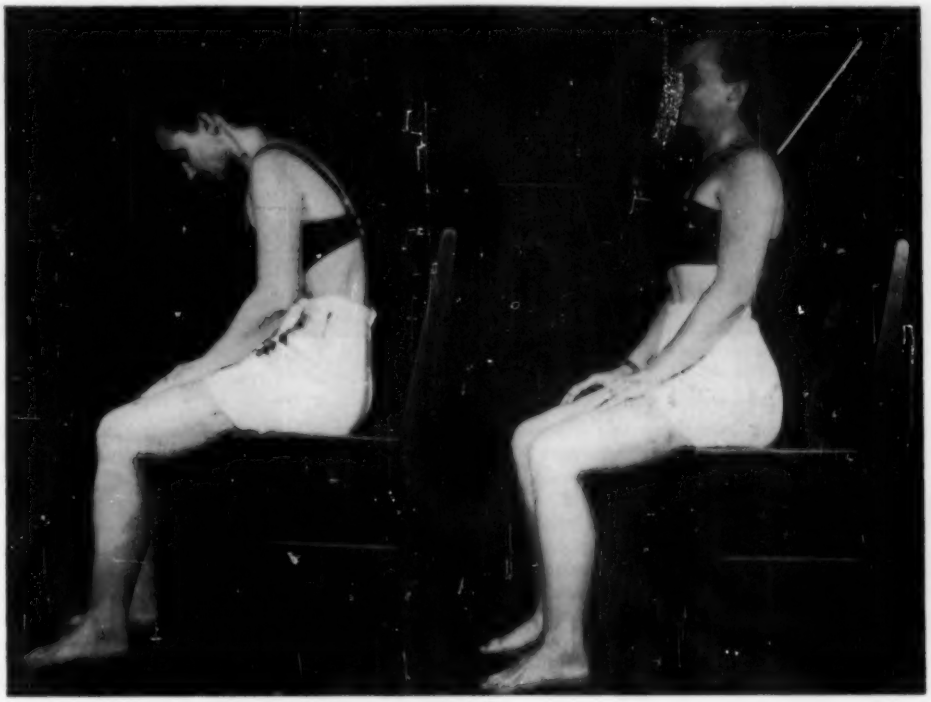


Figure 2

exercises are to be performed at a regular pace, to mobilize the joints of the spine and hips and to improve posture.

Foot exercises, including all ranges of ankle and toe motion, may be given to facilitate circulation in the lower extremities and to strengthen the muscles necessary to maintain proper foot function.

In preparing the pregnant woman for labor and delivery the physical therapist reviews in simple terms the three stages of labor and the reasons for the exercises the patient is to employ at this time.

The first stage of labor extends from the onset of dilation to the complete dilation of the cervix of the uterus. A short description of the anatomy and physiology of the uterus is necessary at this point. The uterus is a pear-shaped organ consisting of three layers of involuntary muscles arranged much like those of the bladder. There is an inner circular layer of muscles, concentrated in the lower segment and cervix, and innervated by the sympathetic nervous system. There is a middle layer, arranged in whorls and figure of eight patterns, innervated by the sympathetic nervous system and mainly responsible for constriction of the blood vessels. The outer layer of muscles is longtitudinal, and is innervated by the parasympathetic nervous system; these are the main muscles of expulsion. In a normal labor the longitudinal muscles rhythmically contract, and the circular muscles relax, allowing the cervix of the uterus to dilate. If the patient is relaxed and free of fear, this harmonious action takes place easily and with little or no pain. If the patient is fearful and tense, however, the sympathetic nervous system is stimulated causing the circular muscles of the cervix to contract rather than to relax. The resultant antagonistic contractions of the longitudinal muscles against the circular muscles retards the dilation of the cervix and actually causes pain. Thus one of the most important aspects of a normal first stage labor is the relaxation of the patient. The patient can relax if she has been acquainted with the phenomenon of labor, and if she has been taught how to relax.

The physical therapist employs Jacobson's

Figure 3

method of teaching conscious relaxation. The patient lies on her back with head and knees supported by pillows, legs apart, and rolled out. She is first asked to close her eyes and to think calm and peaceful thoughts. The physical therapist then suggests that the patient tighten certain large muscle groups and then relax them, keeping those groups relaxed in turn while she continues this process with other muscles. Thus the patient is asked to tighten and then relax and keep relaxed her fist, her elbow, her shoulders, and so on all over her body. This is an attempt to make the patient conscious of the difference between tension and relaxation, and with practice, the patient should be able to consciously relax without first tightening.

Later on in pregnancy it is frequently more comfortable for the patient to lie on her side, and so relaxation should also be practiced in a side-lying position. If lying on the left side, the left arm is slipped behind the back, the right knee and arm are bent and forward so that they rest on the bed. (Figure 3) This position distributes the weight of the body evenly.

To aid in relaxation and also to remove pressure from the uterus during the first stage of labor, deep abdominal breathing is taught. The patient practices this breathing in both positions of relaxation, on the back and on the side. Initially on her back, she places one hand lightly on the abdomen, the other on the chest, and keeping her chest still, feels the abdomen rise on inhalation and fall on exhalation. She now breathes as slowly as possible, making each breath last longer than the preceding one. If possible, she should work up to one-half minute for inhalation and one-half minute for exhalation, thereby making one breath last throughout one contraction of the uterus. It should be mentioned that this very slow breathing is only necessary to relieve pressure during actual contractions of the uterus. However, throughout the whole first stage of labor a relatively slow breathing is a help in relaxation.

With the complete dilation of the cervix, the second stage of labor or the stage of expulsion begins, and the baby descends down the birth canal and is born. With each contraction of the uterus the patient is asked to make bearing-down efforts. This is the same kind of motion employed in a constipated bowel movement. The breath is held, while the abdominal muscles are tightened in an effort to push down and out. These bearing-down motions are explained to the class but are not practiced.

Toward the end of the second stage of labor, the pelvic floor muscles and vaginal sphincter must relax to allow the passage of the baby. The following exercise is taught in an effort to make the patient aware of the state of contraction of these muscles. Lying on the back, knees straight and legs crossed at the ankles, the patient is asked to tighten the buttocks, press the thighs together, and to contract the sphincters as if preventing a bowel movement; then to relax. This is also an excellent exercise for those pregnant women who are troubled by bladder incontinence when they cough or sneeze, because it simultaneously strengthens the sphincters of the anus, vagina, and urethra.

Just before the appearance of the head of the baby, at the end of the second stage of labor, panting is employed by the patient to slow down the birth process, and to prevent tearing of the perineum. If the patient pants she is unable to put any expulsive pressure on the baby, and this automatically retards the birth of the head. Panting is practiced on the back, hand on chest,

mouth open, The patient breathes in and out quickly as if short of breath, making her hand rise and fall.

The third stage of labor proceeds from the birth of the baby to the expulsion of the placenta and membranes. No exercises are practiced for this third stage but the mother is informed that she may be asked to make one or two more bearing-down motions to assist in the expulsion of the after-birth.

From April 1, 1953 to May 1, 1954, 1,068 patients were followed in the public obstetrical clinic at Duke Hospital. Of this number, 485 or approximately 45 per cent, participated in the prenatal training program described. The following preliminary impressions of this program have been received:

1. An improvement in patients' mental outlook toward pregnancy and childbirth.
2. A decrease in fear and tension, resulting in a shorter average duration of labor, a decreased need for analgesic and anesthetic agents and fewer complications of pregnancy and delivery.
3. A feeling of satisfaction on the part of patients who deliver following adequate preparation.

BIBLIOGRAPHY

1. Heardman, Helen: A Way to Natural Childbirth. The Williams and Wilkins Company, Baltimore, 1949.
2. Heardman, Helen: Physiotherapy in Obstetrics and Gynecology, E. and S. Livingstone, Ltd., Edinburgh, 1951.
3. Jacobson, E.: Progressive Relaxation, University of Chicago Press, Chicago, 1938.
4. Madders, J.: Ante-Natal Training—Proceedings of First Congress of the World Confederation for Physical Therapy, 34-38, 1953.
5. Morris, Margaret and Randell, M.: Maternity and Post-operative Exercises, N. Y. Oxford University Press, 1936.
6. Randell, Minnie: Training for Childbirth, London, J. A. Churchill, Ltd., 1945, 3rd Edition.
7. Read, Grantley Dick: Childbirth Without Fear, Harper and Brothers, New York, 1953.
8. Smith, Gillian Griffith: Physical Therapy in the Prenatal Program, The Physical Therapy Review, 31:1-4, No. 2, February, 1951.
9. Thoms, Herbert: Training for Childbirth, McGraw-Hill Book Company, Inc., New York, 1950.

Parent Instruction and Home Programs for the Cerebral Palsied

Joy Kortemeyer, B.S.

With the increasing number of patients seeking treatment and the acute shortage of trained physical therapists the home program is fast becoming one of the main pillars in the framework of rehabilitation programs for the cerebral palsied and those with other disabilities requiring long term therapy.

There are many arguments for and against home programs and it is not my purpose here to attack or defend them but rather to point out such things as I have found contribute to the success of these programs. To begin with it must be decided who can benefit from a home program. Technically it is the physician's place to decide, but in practice the decision frequently falls entirely or at least in part to the physical therapist.

There are many factors which can influence the choice of patients for home programs, one of the most pressing being the lack of personnel and facilities to care for cerebral palsied children. Even were it acknowledged that every child could be helped by an intensive program with a qualified therapist, it would be a physical impossibility to do justice to even a tenth of those who apply for help. Whom then should we choose, and what of those who are not chosen?

Especially in thinly populated areas we find a substantial number of patients who, though eligible for concentrated therapy, are barred by distance. In these cases we have found it most rewarding to arrange a one to three-week parent instruction program at the treatment center, during which time the child and preferably both parents are in daily attendance. In correlation with whichever of the therapies the child receives, the parents get instruction and super-

Chief Physical Therapist, Maricopa County Society for Crippled Children and Adults, Tempe, Arizona.

vised practice in carrying on the program at home. In addition they have the benefit of close contact with staff members and parents having the same problems as themselves. Those families who have made the effort to attend these programs have proved especially receptive to suggestions by the doctors and physical therapists, and as a result have obtained quite remarkable progress with many of the children treated.

Another group lending itself well to a home program is that of the mildly handicapped children who attend public school and are able to take part in nearly all normal activities. This category is made up largely of hemiplegias and those subcortical lesions manifesting only a slight awkwardness in gait or hand coordination. In such cases it does not seem advisable, either physically or psychologically, to take them out of school for treatment sessions. As a rule they do very well with exercises and directed activities at home, with only occasional check-ups with the doctor and physical therapists at the clinic.

This classification is not complete without including those unfortunate few who are too handicapped either mentally or because of severe and frequent seizures to benefit from physical therapy. Often these children have severe physical handicaps as well, making their care exceedingly difficult and growing more so as they become older. There are very few institutions which can provide adequate care for this type of patient and as a result the greatest majority are kept in the home. In dealing with the parents of these children one requires infinite kindness and tact. As physical therapists our goal is to help them recognize and face their problem. From there we can offer suggestions on home care, for example, transporting the child from place to place, bathing, feeding, and dressing in such manner as to conserve the parent's time and energy. Where several contracture deformities may develop and impede care, simple passive stretching exercises and positioning can be taught the parent to check this tendency.

For patients already on a daily or weekly therapy schedule it is an individual problem whether or not additional home activities would be beneficial. A home program frequently spurs the interest and sense of responsibility of both child and parents. But on the other hand, some parents are too eager and may do more damage than good. In any event, parent cooperation is a most important factor in an effective home program. Judging from the degree of cooperation, the physical therapist may then plan the patient's home activities.

Parent Instruction

Whether or not it is deemed advisable to put a child on a home program should not affect the physical therapist's duty to the parents in acquainting them with the nature of the child's handicap and what can be done to overcome it. Cerebral palsy is a complex disorder and its various clinical manifestations are not thoroughly understood at once even by medically trained people. How much more awesome must it seem to a lay person, how terrifying to a frightened parent. The conscientious physician makes every effort to explain to his patient the disorder and the course it can be expected to take. The physical therapist, however, has the advantage over the physician in that she sees the patient oftener and thus has more time to talk to the parents and answer questions. Anything that can be said to dispel their fears and help them to face the problem squarely will help that much more in making treatment effective.

Realizing that parents will have questions which they often cannot phrase, the physical therapist must anticipate them and take the initiative during the first consultation period. Once the subject has been opened they will find it easier to bring up specific questions which otherwise might never have been asked.

A good place to start in the explanation is with the reason the child is handicapped. If the cause can be ascertained from the patient's history a simple explanation of this will usually suffice. If the etiology is obscure examples may be cited of the many situations most commonly causing the condition. The important point to make is that cerebral palsy is nobody's "fault." This may seem elementary, but we are constantly amazed at the number of otherwise intelligent people who, though it is frequently unspoken, place the blame for the child's condition either on themselves, their spouse or on the physician attendant to the child's birth.

How much is the child really handicapped? Unfortunately the parent who can objectively and sincerely answer this question is rare indeed. The rest range from the one extreme of refusing to acknowledge any disability to those who, on hearing the diagnosis of cerebral palsy, assume that their child is forever doomed to a life of complete dependence. To help these parents gain the proper perspective of the patient's handicap is a valuable service to both parent and child. A parent who knows what he can expect from his child and demands it of him is a physical therapist's right arm.

The first question an anxious parent will ask, and the hardest one to answer to his satisfaction is, "Will he ever be like normal children?" In essence, what is the prognosis? Any physical therapist would be foolish to attempt to answer this question on a subject where even the physician is often reluctant to make a positive statement. However, the physical therapist can explain what he hopes to achieve as an end result of treatment, whether this be merely a refinement of gait or the teaching of such self-help activities as will facilitate the child's home care. For some reason the child's ability to walk seems to be the prime objective of many parents. What he is going to do when he gets there is apparently of only secondary importance. In many cases the ability to make known his wants or to feed and dress himself would be of much more use to both the child and parent—and the quicker this is understood the better for all concerned.

Once the long range aim of treatment is established it must be decided by what means this is to be accomplished. What is the immediate aim for this month or this year? Physical therapists know that before a child walks he learns first to control his head, to sit, to crawl, and so on up the natural developmental scale. But parents of a handicapped child are often prone to forget this when they see their child, well past the normal age of walking, still unable even to get on his hands and knees. We must impress upon them that the natural order of events still holds true even though it is delayed. Therefore perhaps the immediate goal may be learning to sit and in order to achieve that the child may, for instance, need exercise to the trunk and neck, a special chair, or merely motivation. Whatever procedure is indicated should be thoroughly explained to the parent so that he will understand why this is being done and how it will help.

When bracing is ordered we must make certain that the purpose of the brace is understood. Is it for control or support? Is it to prevent deformities or correct existing ones? Why is it necessary to wear the brace at certain times? Why night bracing? How should braces be adjusted on the child? Knees locked? Hips locked? And at what times? Bracing is a costly investment and it is a shame to see it misused or *un*used when a word of explanation could make it, an invaluable tool in the rehabilitation of the patient.

Specific instruction for a home program will of course vary with the child's needs and the parent's understanding and initiative. The following suggestions can be applied to most situations.

1. If at all possible talk to both parents or others who have the care of the child.

2. Keep the number of different exercises to a bare minimum. (Later, when the parent and child have become accustomed to the exercise routine, more may be added. Too much to begin with makes for confusion.)

3. Demonstrate the exercise on the child. Then have the parent do it, a number of times if necessary, until you are sure he knows the correct procedure.

4. Include suggestions for functional activities such as feeding and dressing. You may also recommend certain toys which would, for instance, encourage the use of both hands in a gross movement.

5. Warn about poor standing and sitting postures which encourage deformities.

6. Write out the program; preferably, as you demonstrate the exercises. This not only helps to fix it in the parent's mind but provides a reference to fall back on should he become confused later. The written instructions should include the number of times each exercise is to be done and how often. You may even suggest a daily schedule; for example, while mother is doing morning chores the child can stand in his stand-up table, in the afternoon he is allowed to play on the floor, at lunch more time can be spent on feeding himself, table exercises can be done after his nap and before bedtime.

7. Illustrate and explain what is desired in homemade devices such as special chairs or stand-up tables. Find out if these can be adapted to family living before ordering them. A cumbersome stand-up table, for instance, can prove quite an obstacle in a house trailer.

8. Ask for observations from the parents on the progress of their child. These might include noticing which playthings or games are most effective in eliciting the desired motion from the child, at what time during the day the child is most cooperative for therapy, and how long he can maintain independent sitting or standing balance. These observations are useful not only in motivating the parent and child, but frequently are of great help to the physical therapist in dealing with other patients.

An informed and interested parent can be the deciding factor in the rehabilitation of a cerebral palsied child. To ignore this potential aid amounts to neglect of our responsibility to our patient.

*Fibrositis and Non-Articular Rheumatism**

Wallace Graham, M.D., M.R.C.P., F.R.C.P. (C)

A study of the rheumatic diseases reveals that the diseases of joints or the many forms of arthritis are well defined and therefore readily classified into their various groups. The diagnostic boundaries of rheumatoid arthritis, osteoarthritis, Marie-Strümpell arthritis, gouty arthritis, etc., are now more or less clear and universally accepted throughout the world. Although much remains to be learned about these articular diseases at least we all speak the same language, and the results of treatment in one country may be compared with those in another. Diagnostic agreement, based on the composite experience of scientific workers throughout the world, has, therefore, led to good treatment.

However, when we venture into the field of non-articular rheumatism, particularly fibrositis, we find that all is confusion. Although fibrositis is considered by many the most common form of acute and chronic rheumatism there is little agreement concerning its definition, aetiology, pathology or treatment. The diagnostic boundaries defined in the various countries are so elastic that total experience cannot be assessed; as a result, advances in knowledge and treatment have been retarded.

This paper will deal primarily with the non-articular condition known as fibrositis, and its purpose is to try to dispel some of the existing confusion and suggest a more positive approach to treatment.

The term 'fibrositis' was first introduced by Sir William Gowers in 1904 when he used it to denote the inflammatory changes in fibrous tissue which he felt were responsible for lumbago. Stockman (1920) first observed what he believed to be the underlying pathology, and he defined fibrositis as "a condition of chronic inflammation of the white fibrous tissue of the fascial aponeurosis, sheaths of muscles and nerves, ligaments, tendons, periosteum and subcutaneous tissues, occurring in all parts of the body and giving rise to pain, aching and stiffness and other symptoms, the result of preceding general infections or local inflammation or injuries."

This plausible theory was at first eagerly grasped by frustrated physicians seeking a cause for the manifold aches and pains in soft tissue structures, but subsequent histological studies failed to confirm the presence of chronic inflammation in the muscles involved.

For years the term fibrositis was received with reluctance and scepticism in America because of its defined pathology, and the name was not formally introduced until about 1936. However, with increasing recognition of the distinctive clinical pattern fibrositis is now considered by most rheumatologists to be the most common form of acute and chronic rheumatism as well as the most controversial condition in the rheumatic field. Surely a condition with such widespread frequency is deserving of more serious attention than it has received.

A review of the literature on fibrositis unfortunately only leads to confusion. It reveals a number of authors vehemently defending a variety of theories regarding its cause but, in most cases, basic histological studies necessary for support of their theses are conspicuous by their absence. Nevertheless, the term fibrositis, which suggests an inflammatory cause, has crept into general use. No common cause has yet been determined and it is not established that inflammation of fibrous tissues is concerned in its pathogenesis. Lacking a firm pathological background fibrositis has become the 'phantom disease,' the term being a veritable depot for many varieties of non-articular rheumatism, a situation which is confusing to students, physicians and physiotherapists, and which does not help to clarify the nature and identity of this very common complaint.

Clinical Manifestations

The chief symptoms are pain, stiffness and soreness, and the usual signs are tenderness and perhaps some limitation of movement. The most frequent sites are in the neck, shoulder, lower back and chest areas. The onset may be sudden or slow and insidious, and the course may be acute, subacute or chronic with remissions and

Assistant Professor of Medicine, University of Toronto; President, Canadian Rheumatism Association.

* Read at the First Congress of the World Confederation for Physical Therapy, London, September 1953; reprinted from *Physiotherapy*, Vol. 40, No. 4 (April 1954) Journal of the Chartered Society of Physiotherapy.

exacerbations, the patient being relatively free of symptoms for varying periods. There is little or no effect upon the general health except that most patients complain of unusual degree of tiredness and easy fatigue which is not relieved by the night's rest. The distress is most often a dull ache, sometimes a burning sensation. Unlike arthritis the patient is worse after rest, worse in the morning and worse after sitting. The muscles seem to gel with rest, but the discomfort is relieved by activity. The patient can, to some extent, 'work it off' by exercise, but with the onset of fatigue the discomfort tends to return. The symptoms may be precipitated or augmented by cold, dampness, drafts and emotional upsets. Relief is often obtained, at least temporarily, by heat, such as a hot bath, salicylates, alcohol, and mental and physical relaxation. No constitutional disturbance is found and, apart from local tenderness, physical examination is notoriously negative. Palpations may disclose a localized tender area or myalgic spot, the so-called 'trigger point' of fibrositis, and it would seem that these tender areas may be largely responsible for the symptoms. Pressure on these areas may reproduce the patient's pain not only locally but in the areas of their referred pain. Injections of the area with a local anaesthetic may give complete relief, a full range of painless movement being restored. Pain may also be produced by increasing tension in the suspected structures by stretching movements.

Any discussion of the so-called fibrositis nodule is still entirely speculative. Many claim to have felt them, but I know of no one who has actually seen one. For this reason it is probable that nodules have been over-stressed as a diagnostic aid and, as one author stated, they are 'only accessible to the finger of faith.' In 500 soldiers examined by Copeman and Pugh nontender nodules were found with equal frequency in those with and those without the symptoms of fibrositis. Copeman's work has revealed that many such nodules represent herniations of fat which as a rule produce no symptoms.

It is probable that the fibrositis syndrome represents a yet unknown soft tissue reaction to a variety of different stimuli: traumatic, infectious, toxic, endocrine, psychogenic, etc. It is not surprising that Babylonian confusion has arisen when a multitude of conditions differing widely in their clinical picture and probably in cause, such as Dupuytren's contracture, bursitis, fat hernias and psychosomatic states, are included in the present classifications. Used in its broad sense, the term fibrositis has little more value than its predecessor rheumatism; it would seem important that an effort be made to establish a terminology based on cause which will make sense to the student, and which will lead to more fundamental treatment rather than 'teeth, tonsils, asp. in and physiotherapy.'

CLASSIFICATION

Classified according to location fibrositis has been separated on an anatomic basis into several groups: (1) intramuscular (myositis, muscular rheumatism), (2) periarticular, (3) tendinous, or fascial, (4) bursal, (5) perineural, and (6) panniculitis.

On clinical grounds fibrositis has been classified as: (1) primary—without demonstrable cause or sign of systemic disease; (2) secondary —a manifestation of diseases such as infections, associated with various forms of arthritis, such as rheumatoid, rheumatic fever, gout, etc.; the result of strain or trauma, exposure, occupation, postural and structural abnormalties, etc.

However, recent studies would suggest that if the patient is adequately studied, not only physically but psychologically, a cause for the symptoms will not be lacking, and the use of the term primary or idiopathic fibrositis will seldom be necessary.

INCIDENCE

The difficulty in establishing the incidence of fibrositis in relation to other rheumatic diseases is well shown in the figures published by various authors during World War II. The incidence of fibrositis in the British Forces was many times that seen in American troops subject to the same conditions. It is fair to assume that the symptoms suffered by both groups and studied by recognized observers were reasonably identical but, as Hench has pointed out, the discrepancy is due to the fact that no cases of psychogenic rheumatism were listed separately in the British series (and hence were included in the fibrositis group), whereas in the American group psychoneurosis was responsible for joint and muscle symptoms in one out of every five patients who complained of musculo-skeletal disorders, and these cases were not included in the fibrositis category. The conflicting figures published by leading rheumatologists support the view that the composite term fibrositis is too broad a label and should be discarded or at least broken down into many components if diagnostic unanimity is to be obtained.

AETIOLOGY

The cause of fibrositis continues to be a controversial subject. Most investigators agree that the syndrome may be initiated by many factors, and the relation of injury, infection, exposure, fatigue, vascular, metabolic, postural, occupational and psychogenic conditions have all been put forward.

The direct infective theory, originally proposed by Stockman in 1920, now has little support. No organism has been demonstrated, and antibiotic drugs have not been of value in treatment. Nevertheless, the fibrositis syndrome does occur in association with influenza, malaria and other general infections. The relation of septic foci in teeth, tonsils, etc., once strongly supported, is now, fortunately, losing ground rapidly. The theory that many rheumatic ailments owe their origin to infection in the oral cavity was originally proposed by William Hunter in 1910. Over the years this plausible theory was widely accepted by physicians and dentists, and thousands of rheumatic patients were doomed to a toothless existence, the result of a theory utterly lacking in scientific support. After reviewing the unfortunate results of the application of this theory over a period of forty years it is astonishing that the wholesale removal of teeth and tonsils still exists as a 'cure' for many forms of rheumatism, including fibrositis.

Injury is considered a common cause of fibrositis: the result of a single incident or of repeated strain over a long period. As a rule the discomfort is short in duration unless the strain is maintained by occupational factors. There would seem to be no doubt that exposure to cold, wet, draughts, chilling and sudden changes in temperature can initiate an attack. Copeman feels that the symptoms may arise from the abnormal retention of fluid by fatty tissues, and that the origin of this selective swelling is probably endocrine in nature. Sir Thomas Lewis believed that the pain of fibrositis is of the same quality as that experienced by a patient with diminished circulation in the legs due to arterial disease, so-called intermittent claudication. Elliot is of the opinion that the myalgia arises from an irritated nerve root and that the tender spots are due to local muscle spasm; electromyographic studies were said to support this thesis. Steinberg, in the United States, favours a nutritional theory: that fibrositis is due to abnormal metabolism of vitamin E. This theory has not been supported by others.

Halliday feels that most cases are psychogenic in origin. Many agree that emotional factors play an important role, and there would seem to be no doubt that the syndrome may be initiated or profoundly affected by the emotional state of the individual which reflects in the fibrous tissues with aching, pain and stiffness. Although this view has been challenged by those who defend the organic theories its validity has been strongly supported by many authors.

It is probable that in most cases the fibrositis syndrome is precipitated by a psychosomatic disorder; this view is supported by the fact that the symptoms tend to come and go with a change in life situations and often disappear when the emotional stress is over. Such a mechanism has long been accepted as a basis for cardiac and gastric complaints, but for some reason it has not been generally accepted in the field of rheumatism. This failure to include fibrositis among the psychosomatic states has been the chief obstruction to more effective treatment. In the study of non-articular rheumatism it is necessary to accept the basic concept that the fibrositis syndrome is a symptom-complex of bodily distress and stiff action, and that people can become physically sore and stiff from mental as well as physical trouble. There is nothing radical about this attitude: it simply implies treating the person as well as the disease.

In our study of patients with so-called fibrositis it soon became evident that, as a group, they presented a fairly well defined emotional pattern. They were not psychoneurotics in the true sense of the term, but they were emotionally unstable and reacted with excessive responses both mentally and physically. When they meet what most people would consider ordinary trials of life they become tense, keyed up, tied in knots, and unable to relax. Their attitude was one of physical and mental restraint in which they felt emotions of anger, fear or resentment, but for various reasons they were unable to give vent to these feelings. A correlation of the physical and mental phenomena suggested that in periods of prolonged emotional restraint these people have their fibrositic symptoms. If they can relax, as on a holiday, or with reassurance and relief of stress they become comfortable. As Halliday states, the symptoms are an outward manifestation of inner emotional tensions that have been provoked by disturbing external events or internal conflicts. Symptoms of being sore and stiff represent the patient's deep-seated feeling of being hurt by circumstances. In this way his inward feelings are, so to speak, pushed out of his mind and his attention is distracted from his

inner problems and becomes focused on his bodily discomforts. Treatment, therefore, must be directed along the line of psychotherapy, as physiotherapy and other forms of treatment will only tend to fix the disability in the patient's mind. In such patients the resulting clinical picture may exactly duplicate the fibrositis syndrome with aching muscles, soreness and stiffness, local tenderness and trigger points.

It is very important, however, that the pain and discomfort must not be thought of as something imaginary in the patient's mind. Although some psychological fault is uniformly present in such patients the local stiffness, pain and tenderness is real and is due to a related physical fault, the exact nature of which is still unknown. The emotional stress appears to cause a tautness in the muscles with a local neuromuscular or vascular disturbance which seems to come and go with the rise and fall of emotional tension. In some way this tautness must stimulate the muscle pain mechanism with resulting aching and tenderness, trigger points and referred sensations. The electromyographic studies of Holmes and Wolff are of interest in this regard. Using needle electrodes in various areas they measured increased muscle tension and activity while the subject's feelings of hostility and resentment were brought to peak intensity and then they noted that the muscle activity subsided rapidly with emotional support and reassurance. In 65 subjects with backache a sustained increase in motor and electrical activity was a common reaction when the subject was confronted by situations which threatened their security and engendered apprehension, conflict, anxiety, resentment, hostility, humiliation, frustration and guilt. The reaction often provoked pain in the neck, back and extremities.

One cannot deprecate too severely the frequent use of the label 'arthritis' for these people who complain of muscular stiffness and aching. Accurate diagnosis is largely a matter of time and interest, and a few minutes spent inquiring about the person and not the complaint will open new and important avenues for treatment. As Sir William Osler said, "inquire not only as to what kind of sickness has this man, but also what kind of man has this sickness." As has been mentioned before, failure to explore the person and his environment can only lead to misfortunes in treatment. In dealing with these problems, Weiss castigates the organically minded physician who becomes a pathogenic agent in perpetuating the illness by his well meaning but mistaken and never-ending efforts to find a physical cause. "We must interest ourselves in not so much a lack of vitamins as the lack of emotional satisfaction in their lives . . . instead of looking for focal infection we must look for focal conflict . . . what they need is not a lumbar support but psychological support."

The exact role of psychogenic factors in the aetiology of fibrositis remains a controversial subject, but to most observers this syndrome is seen in nervous and anxious people who seem to have a tension state and who find it difficult and impossible to relax.

In view of the many causative factors which have been outlined—infection, trauma, exposure, etc.—it is obvious that fibrositis is not a disease entity but a syndrome brought about by a variety of widely separate conditions and, if considered in this light, much confusion will be avoided, as Dr. Himsworth said in a recent lecture. It must be realized that a group of symptoms may be brought about by a chain of events and interference with the chain at any point may produce the same impairment of bodily function. The same group of symptoms, therefore, may arise from different causes. This thesis would appear to provide a satisfying explanation for the controversial origin of fibrositis.

PATHOLOGY

Pathological studies have not yet revealed the fundamental nature of the syndrome. Fibrositic nodules and thickenings, varying in size, shape and location, have been described by many authors but, in spite of biopsy studies, there is as yet no typical microscopic appearance whereby they can be identified histologically. Authors have pictured the outpourings of serofibrinous exudate, the proliferation of fibroblasts and laying down of fresh fibrous tissue as the pathological basis for the symptomatology, but such theories still lack microscopic support. A pathological basis for pain and local tenderness in a few cases has been adequately established in the herniated fat nodule, and many nodules, tender or non-tender, formerly referred to as fibrositic nodules undoubtedly represent such fat herniation. Similarly, laboratory studies have failed to clarify the situation.

TREATMENT

The beneficial but temporary effect of rest, heat, massage, analgesics, the injection of local anaesthetics and an exercise programme are accepted, but fundamental treatment of the syndrome must naturally be directed against the agent which is felt to be the cause. The tendency

to group many forms of non-articular rheumatism under one label has led to an unfortunate 'fibrositis treatment' which has been useless in the majority of cases. The hypothesis that fibrositis is a chronic inflammatory lesion of fibromuscular tissues has led to the extensive misuse of massage in an attempt to relieve the inflammation and cure the patient's symptoms. The fact that no such inflammatory lesion exists explains why thousands of physiotherapists all over the world have wasted millions of hours rubbing patients, with little success in 'curing' them or even significantly relieving their symptoms. Relief for short periods may follow massage, but surely the attack should be on the cause and not on the effect.

Most patients who have fibrositis think that they have arthritis and are filled with the fear and anxiety which accompanies this diagnosis. Reassurance that the trouble does not represent progressive destructive joint disease lifts a great weight from the patient's mind and is the most potent factor in treatment.

When a psychological fault has definitely been established as the cause, psychotherapy and not physiotherapy in its ordinary sense is indicated. As Weiss suggests: "When we say to these people that their aches and pains and fatigue are due to the fact that they are always in a state of tension, that they do not know how to relax, even at night, and that because they are taut their muscles are crying out in protest with aches and pains, it carries conviction and provides a stepping-stone for them to begin to talk about their emotional problems." Such patients can often be shown from their own history that their symptoms increase when they are emotionally upset and subside as they gain mental physical relaxation. In the tension group an effort should be made to teach the patient *how to relax*, which requires only a limited amount of time and patience on the part of the physiotherapist but, what is more important, it stimulates the patient to make his own contribution towards the control of his disability.

The physician or the physiotherapist cannot change the personality of the patient and seldom can they alter the environment, but at least an effort can be made to determine and treat the cause rather than thrust all patients with non-articular symptoms into the grab-bag labelled fibrositis. In the tension group an explanation of the mechanism of their pain will often lead to a complete change in attitude and consequent relief.

While waiting for further study to clarify the many components of non-articular rheumatism it would seem beneficial to consider fibrositis not as a clinical entity but as a syndrome with a wide variety of causes. The patient will then more likely receive the physical and psychological investigation which his problem demands, and this should lead to a more positive approach to treatment.

Discussion

Does the lecturer think that a sensible explanation of the fibrositis syndrome and positive instruction in the art of relaxation might be more effective than a visit to the psychiatrist?

Few of these people should be under the care of a psychiatrist. They should be in the care of their family doctor; he is best able to find out their troubles.

Is not the ideal treatment combined physiotherapy and psychology, when the massage, etc., makes the patient more receptive to suggestions on emotional problems?

I agree and emphasize that physical therapists can do much good by finding out something about the patient's personal problems as well as attending to his muscles.

Could the pain and stiffness suffered by patients also be accompanied by signs of surface inflammation proximal to the affected joints; i.e. redness of skin, increase in temperature of joint? Or would this symptom point to a secondary rather than a primary fibrositic condition?

Today we are not dealing with secondary fibrositis where the cause is obvious; we are dealing with primary fibrositis where there appears to be no physical cause.

Sometimes one finds a jolly, fat person suffering from fibrositis. Why is this?

A good question, but I have been searching in my practice for a jolly, fat person and have not found one suffering from primary fibrositis yet!

When the condition popularly known as 'stiff neck' occurs due to cold are there any pathological changes in the muscles?

Inflammation of the muscle has been 'suspected,' but I have not seen any sections which confirm its presence.

What technique would the lecturer use in teaching relaxation to a fibrositic patient?

One of the members of the Canadian Physiotherapy Association has helped us by making a phonographic record on relaxation from which the patients follow instructions in their own homes. It is an excellent relaxation programme and saves much time and trouble.

Would the paper apply equally to the disease known as panniculitis?

No. There are a number of questions about the disk syndrome, the displaced intervertebral disk. In our first group of 20 patients which we studied thoroughly we ended up with two having a definite disk syndrome. There is no doubt that lesions of the cervical disks or lumbar disks give rise to nerve irritation and muscle spasm. Those are true disk lesions. They were ruled out in the cases which I mentioned.

Do you agree that the physiotherapist, whilst treating the patient physically, has a grand chance to get to the possible mental cause of the condition and by discussing it helpfully is able to relieve the tension, especially by private treatment?

Physiotherapists have a real opportunity which should always be pursued.

Does the lecturer think lumbago is psychological?

Sometimes it is; sometimes it is not. It may be due to a disk lesion or due to tension, or many other things.

Has diet any place in the treatment of these patients?

Diet has no effect on fibrositis.

In view of what the lecturer has said, would he agree that a person with few inhibitions will be less prone to fibrositis?

If the questioner has in mind primary fibrositis or 'tension' rheumatism I should say yes. I do not advise my patients to throw plates at the wall, but I have many who are grinding their teeth while washing their dishes, and others are obviously under tension while asleep. Sleep does not necessarily mean relaxation and such people wake up tired and stiff in the morning. We have to go further than just telling such patients to go home and relax.

Suggestions from the Field

Fabricated Weight Cart

Lillian Peth, B.A.

In almost every hospital there are one or more ward patients who require weights for resistive exercises. In our particular instance these patients are early paraplegias or spinal fusion patients. The use of weights in resistive exercises in the treatment of the postoperative thoracoplasty patient is becoming more widely recognized. As this procedure requires the use of graduated weights, a variety of sizes must be available to the physical therapist while on the ward.

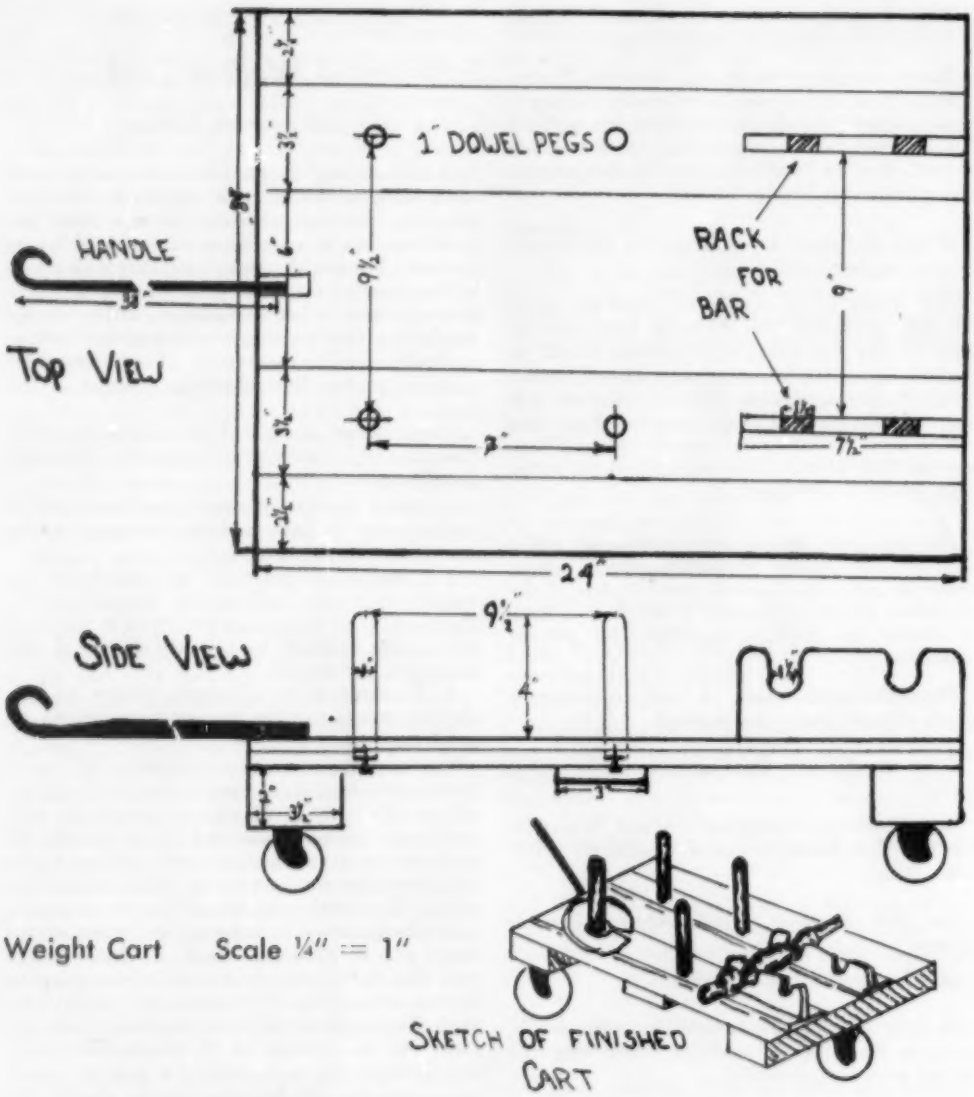
These factors stimulated the improvision of a "weight cart" which would meet the following specifications:

1. Small in over-all size to facilitate ease of maneuvering in halls and on elevators and to minimize storage space.
2. Capable of carrying an assortment of weights as to size and weight. The adjustable "bar bell" type weights are preferred as they can be quickly changed to suit the needs of the individual patient.
3. Constructed to eliminate injury to the physical therapist when transporting weights to and from the wards.

The over-all size of the cart is 24" x 18" x 10". It is mounted on three hard rubber ball-bearing wheels. The pair of wheels are swivel type and are placed on the same end as the handle to facilitate ease in turning and guiding. The height enables the cart to be stored under the plinth. The height can be adapted to fit under most plinths either by reducing the height of the dowel pegs or by using wheels of smaller diameter. The dowel pegs are placed far enough apart so that either 5" or 7" diameter weights may be used. The height of the dowel pegs allows enough room for the storage of 24 plates. With this arrangement the cart should be able to carry approximately 50 pounds, which should be ample resistance for the bed patient.

The notched supports or "bar rack" provide space for two bars, handles, and collars, enabling the use of two bar-bells. This permits the physical therapist to economize on time either by exercising two upper extremities at one time or by giving exercises to two patients at the same time. There is a 38" handle made of 1¼" iron

Staff Physical Therapist, Ft. Douglas Veterans Administration, Salt Lake City, Utah.



so that the physical therapist can push or pull the cart without low back strain.

It was found before the use of the cart that carrying the bar bells with approximately 15 to 20 pounds weight produced a strain on the elbow and shoulder joint. Use of the cart eliminated this and also removed the danger of dropping the weights while opening doors.

At the initial use of the cart it was found that the vibrating of the weights produced a good deal of noise. This disturbance was minimized by placing a 5" sponge rubber ring on the dowel peg between the stack of plates and the cart bed.

This cart was fabricated by the Manual Arts Therapy Department and the approximate cost was $25.00. It should be mentioned that the cost of making the cart can vary according to the type and size wheels which are used.

Mnemonics in Physical Therapy

Introduction

The use of mnemonics is certainly not new in the field of physical therapy. It has been utilized for many years and is perhaps most familiar to those who work with cerebral palsy. This technic has recently been adapted for a different use at the Los Angeles County Hospital under the direction of Dr. Elizabeth Austin. In order to facilitate learning the routine of exercises used as a "check-out" for patients with poliomyelitis, the following rhyme was devised by Dr. Helen Mackler* to fit the prescribed movements.

Simple Muscle Check Routine in Poliomyelitis

At the end of their quarantine period, poliomyelitis patients are examined for decision to release home, to secondary hospital, or to respirator center. The following outline of a simple check out is used.

Supine

1. Back lying—raise head—turn from side to side
2. Breathing—inhale and exhale
3. Straight leg raising—alternatively and together
4. Straight legs over head—touch toes to table
5. Half sit—V position

Sitting

6. Long sitting—bend forward and touch toes
7. Sitting erect with hands at back of head—touch head to knees

Prone

8. Face lying
   a. Head back
   b. Shoulders back
   c. Extend arms
   d. Hyper-extend back
   e. Hyper-extend legs—rock

Standing

9. Knee to nose—one at a time
10. Touch heel to buttock (alternately)
11. Standing—squat sitting with heel flat—rise
12. Stand on heels—on toes
13. Both arms forward—flexed to vertical

* Fellow Physical Medicine and Rehabilitation, National Foundation for Infantile Paralysis, Los Angeles County General Hospital.

Even this elementary routine requires time to learn for prompt use by physical therapists, and the following jingle serves as a mnemonic for new therapists and as a relaxing device for the child. Having once or twice heard it chanted in the hospital, it is familiar when the child returns for examination to an otherwise strange outpatient department.

Mnemonic for Checkouts on Polios

I

Lie on your back. Lift your head from the table.
Look toward each shoulder as far as you're able.
Take a big breath: let it out with a hiss.
Can you lift your legs as high as *this*?
Heels against the table *tight*.
Now reach with the left leg and the right.
Both legs up—toes over your head,
And half sit up as if in bed.

II

Sit up tall and touch your toes.
Hands behind head, make your knees kiss your nose.

III

Over on your tummy: up with your chin.
Shoulders back as if you'd swim.
Arms way out and up from the mat.
Now, can you make your heels do that?
Now with head and heels in the air, of course
Can you rock back and forth like a rocking horse?

IV

Touch your knee with your nose. How does it feel?
Stand on the floor. Touch your seat with your heel.
Heels on the floor. How far down can you sit? (squat)
Up in the air to your very toe tip.
Both arms forward. Elbows bend
And you've done your tests to the very end.

HELEN MACKLER, M.D.

Editorials

We are living in a period of trick phrases and coined words which have been created for the purpose of attracting attention or stimulating interest in a problem or project. One phrase, which we have come to use frequently, is "team approach."

A literal definition of the term implies that a line of animals are harnessed together to a vehicle with a driver in the seat controlling the direction of the beasts of burden. There may be a basis for the term, but it certainly has taken on a variety of connotations as its use has been adopted in different settings.

In recent years "team approach" has been used increasingly to designate a method by which a problem may be studied by individuals with skills from various disciplines, who through joint effort and participation assist in solving the problem.

"Team approach" has become a part of our vocabulary and we relate it to the concept of comprehensive patient care in continuing the rehabilitation program. To us, "team approach" usually means a periodic conference at which a physician, as liaison or moderator, is chairman with various medical specialties represented and representatives from the various paramedical groups who may be concerned with the patient's treatment program. All in attendance are expected to participate in reporting observations, clinical findings, and progress. Through sharing information and evaluating findings and progress, agreements are reached for priorities in treatment and adjustment of programs to assist the patient and his family in moving forward in his rehabilitation process.

Although the physician functions as the over-all director, coordinator, or moderator of the team, there may be delegation of responsibility to other members of the team for some phase in meeting the needs of the patients, which may be within certain limitations and controls. The physician may transfer leadership within the team at certain stages of the patient's rehabilitation or convalescence. For example, the professional nurse may be given the role of leadership in carrying out the treatment program for the poliomyelitis patient during the acute illness phase; this role may be transferred to the physical therapist in the post acute stage, and to the social worker when plans for the readjustment period are being formulated.

Some have said that the term "team approach" is used too glibly, and its practical application in a realistic situation with patients has been lost. These critics have indicated that members of the team have not appreciated their role in a cooperative effort; that each wanted the seat of importance, or was unwilling to accept and respect the contributions which could be given by other members of the team at certain levels in the patient's convalescence. The more vocal individuals were able to gain recognition at the conference table and the timid ones, because they did not have an opportunity to present their observations, believed they were not being given proper status. Therefore, it would seem that we, as physical therapists, should come to grips with a clarification of our role in helping to make the "team approach" a productive method in serving the patient most effectively.

In preparing for our role as a member of the team we must learn to accept the patient as a person who has had past experiences which may be reflected in his present response to people, places, and what is happening to him. Understanding his likes and dislikes, hobbies and ambitions, reactions

to his family or ward neighbors, becomes an important factor in making the treatment period a meaningful or acceptable experience. Not only are we charged with duties in carrying out certain prescribed treatments or tests and measurements, but we have the responsibility for a portion of the treatment plan in relation to the total treatment program. At times, it may require adjusting or changing the timing of certain aspects of the treatment program. We may feel that not enough time for physical therapy is permitted, progress is delayed, and we become restless for more action in our area or department. To maintain perspective, we must develop an appreciation of the contribution which other members of the team are prepared to make. When this is honestly accepted by the persons, who complement or fortify each other's activities with the patients, the interrelationships which are necessary in carrying on a satisfactory program will be established.

"Team approach" requires group thinking and acting through cooperative efforts and effective team interrelationships. The nurse and physical therapist will need to make frequent adjustments in scheduling the treatment day for the poliomyelitis patient who requires the assistance of a respirator. The occupational and physical therapist may combine or coordinate the treatment period in building tolerance as steps towards vocational adjustments with the paraplegic patient. The social worker and the physical therapist will share their understanding of the patient and his family as a means of planning for the future of a cerebral palsied child.

The physical therapist will come to the conference table prepared to report on observations, accomplishments, and to participate in discussing and planning for current needs. The physical therapist may play a major or minor role, but satisfaction will be enjoyed if there is an understanding that each member of the team requires the support of every other member. Each has appreciation of the contribution which is being made by disciplines other than his own. Each has met and worked with the other in the ward or clinic situation, and not only at the conference table.

If this kind of activity is adopted in patient care, the connotation of "team approach" implies a basic philosophy of the democratic process of group thinking, planning, and coordinating efforts, with progress towards an acceptable goal for the person for whom the service was developed.

Association Activities

Marriages

Anne E. Ainsworth of No. Tarrytown, N. Y., to Frank I. Hake, Bakersfield, Calif.

Helen Arthur of Grand Rapids, Mich., now Mrs. Helen A. Smith, Grand Rapids.

Lydia Benson of Philadelphia, Pa., to Dr. John F. Groth, Jr., Philadelphia.

Marjorie Chedel of Spokane, Wash., now Mrs. Marjorie C. Kelly, Spokane.

Grace Cunningham of Durham, No. Carolina, to Grover W. Horton, Durham.

Kate H. Elend of Kew Gardens, N. Y., to Murray Guttenplan, Bayside, N. Y.

Mary Helpy of Pitcairn, Pa., to Vincent Ritacco, Donora, Pa.

Marcia Hilfrank of Melrose, Mass., now Mrs. Marcia H. Forrest, Melrose.

Dorothy C. Lewis of El Paso, Tex., now Mrs. Dorothy L. Villa, Memphis, Tenn.

Barbara F. Lipshires of Norwalk, Conn., now Mrs. Barbara L. Srebnick, Bridgeport, Conn.

Bernadette Lussier of St. Paul, Minn. to Lloyd E. Yanisch, Ellsworth, Wis.

Mary M. March of Bellingham, Wash., to Paul C. Leach, Seattle, Wash.

Virginia Newton of Evans City, Pa., to George F. Gardner, Ingomar, Pa.

Kathleen R. Ryska of Hamtramck, Mich. to Michael G. Chowan, Detroit, Mich.

Margaret C. Weber of Long Beach, Calif., now Mrs. Margaret W. Tuttle, Long Beach.

Marjorie Weinert of Redwood City, Calif., now Mrs. Marjorie W. Paiz, Redwood City.

Augusta Wickliffe of Phoenix, Ariz., now Mrs. Augusta W. Finley, Phoenix.

Chapter News

Colorado

From The High Altitude Newsletter

A New Member Attends

Have you ever sat at home in your own situation and wondered—what goes on in National Office? What do all those people do? What could possibly keep the Board of Directors busy for a four-day meeting in New York? Why, oh why, did we have to have our dues raised? These questions and many more have come to my mind in the past and so undoubtedly they have to yours. Now, I have at least some of the answers. If this short article doesn't answer all of your questions, I'd be glad to try again either at meetings or person to person.

My first day in New York was with the Finance Committee getting acquainted with the details of where your money goes. Those books are fabulous; Miss Lipshie, our very able accountant, can tell you where every penny is and where it is going. But did you know that there are over 6,500 members and 58 chapters to deal with regarding the incoming dues and the outgoing chapter share and that some chapter treasurers don't take care of the checks and get them cashed? Bob, if you're one of the guilty ones, I'm out to get you after seeing how much extra work and expense it is to secretaries and Miss Lipshie. So you see some of the fault is with us—delay in getting dues in and delay in clearing the books by taking care of and cashing checks.

One more thing about money. Did you know that so called "Country Conferences" such as our own at Glenwood Springs costs that Association money whereas the city conferences may make a bit of it? For one thing, even though we may like them, the attendance is less, therefore not so many registration fees add up. And another thing, the speakers have to be transported and their hotel bill and meals paid for; whereas, in a city the doctor will come to the meeting for the hour or two that he is on the program.

The second day the Board of Directors started their meeting with the entire day spent in delving into the functions of the National Office. We rotated in groups through every phase of the work. The problems of keeping track of the membership alone with the 400 or more address changes every month was an eye opener. Getting the *Review* out monthly depending on member contributions as to articles, book reviews, abstracts, etc., is a tremendous clerical as well as professional job. Getting acquainted with the Professional Services such as Placement, Polio Assignment, work contributions to the Gamma Globulin and Vaccine programs was unending. Education and Recruitment keep us supplied with ideas and materials. The brochures and posters, the tremendous amount of teaching aids, such as source lists of teaching films come from this department. Miss Haskell's work is a bit more familiar to you since she was here last year. But did you know that she visited 16 other chapters besides ours last year, and she uses Colorado as a prize example because of our good attendance and enthusiasm? I didn't tell her how small our attendance is at some meetings, but I had to admit we weren't always that good.

Miss Elson, of course, has her fingers in many pies. Right now she's knee deep in plans for the meeting in New York of the World Confederation of Physical Therapy in 1956. It seems a long way off in a way, but the thousand and one things that might be forgotten just can't be, and early planning is important.

The next three days the Board and National Office Staff met at the hotel. Reports from Committees, reports about functions such as the examination for foreign trained, scholarships, etc., were given by the various ones representing that work.

One thing that amazed me was the careful consideration given to every single committee appointment. Names were suggested and the capabilities for each job were thoroughly discussed before the person was appointed. I'm sure it will come out elsewhere in the paper, but our president, Vickie, was appointed to the Advisory Committee on Chapter Activities to assist Mary Haskell with her program and problems.

This dissertation could be endless, but some may not have gotten this far, so I'd just like to say: If you have a question about National Activities, I think now that I can answer most of them.

Dorothy Hoag

"The members of the Colorado Chapter voted to establish a student loan fund. This fund, amounting to $50.00, can be drawn upon by the student for the extra textbook needed, or for easing that tight financial squeeze in which many students often find themselves. The student reimburses the fund at his earliest convenience."

Connecticut

On March 26, the Connecticut Chapter will present an educational program at the University of Connecticut School of Physical Therapy.

Subject: Neurology and Neurosurgery as Applied to Physical Therapy

Time: 10:00 A.M.-3:30 P.M.

Place: Student Union Building

Peripheral Nerve Injuries in Relation to Physical Therapy—Ned M. Shutkin, M.D.

Neurosurgical Technics in the Treatment of the Complications of Hemiplegia—Rembrandt H. Dunsmore, M.D.

The program will be of interest to physical therapists, occupational therapists, physicians, nurses, medical social workers and other professional workers.

Registration: $2.00 Students $1.00

Florida

The Dade County Medical Association invited the Florida Chapter to participate in a Health Fair for the Public. The Fair consisted of displays depicting the various health services available to the public. Some other organizations taking part were the American Medical Association, Veterans Administration, Police and Fire Departments, Visiting Nurse Association, University Health Centers and County, State and Federal Agencies. The APTA booth was 25 feet long and consisted of equipment used in the practice of physical therapy. Equipment was loaned for the purpose by several local distributors. The exhibit was manned by Chapter members on all five days from 2:00 PM to 10:00 PM.

Virginia

From the *Virginian*

The cover of the January newsletter shows a map of the state locating cities where physical therapy departments may be found. *The Virginian* then lists the names of hospitals and clinics which have physical therapy departments and the number of APTA members in each—a total of 53 active and 49 student members.

Have you noticed the classified Want-ads the Chapter runs every other month in the *Physical Therapy Review?*

Institute on the Correlation of Basic Sciences with Kinesiology

University of Iowa — Continuation Center, Iowa City

April 12 through 16, 1955

In cooperation with the U. S. Office of Vocational Rehabilitation, the American Physical Therapy Association has completed arrangements to sponsor this Institute. The program will consist of five sections. The subjects will be:

1. *Work, Energy and Power* (workload metabolism, progressive resistive exercises and electromyography).
2. *Motions of Bodies including Equilibrium* (gravity, posture and specialization of the human structure).
3. *Simple Machines with Emphasis on Levers and Pully Action* (2-joint muscles, reciprocal innervation, synergism, leverage, simple and complex pulleys).
4. *Composition of Resolution of Forces* (will include torque, locomotion, and shoulder motion).
5. *Psychology and Techniques of Teaching*, which will include effective use of visual aids.

The faculty for the program will include physical therapists, a physicist, physiologist, anatomist and pedagogist, all of whom are expert in their field.

First priority for admission will be given to instructors of the kinesiology course in each approved school.

The grant from the OVR will cover all expenses of the program so tuition will not be charged as was previously announced in the February issue of the *Review*. Applicants who need assistance with travel may write for further information. All "students" must finance their own living accommodations. Facilities are available at the Continuation Center at minimum costs.

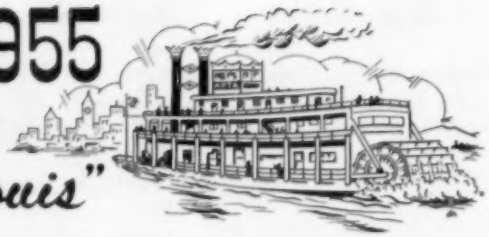
For application, room reservation at the Center, and/or further information, please write directly to:

Dorothy Hewitt, Educational Consultant
Room 310, 1790 Broadway, New York 19, New York

CONFERENCE 1955

JUNE 19th to 25th

"Meet me in St. Louis"

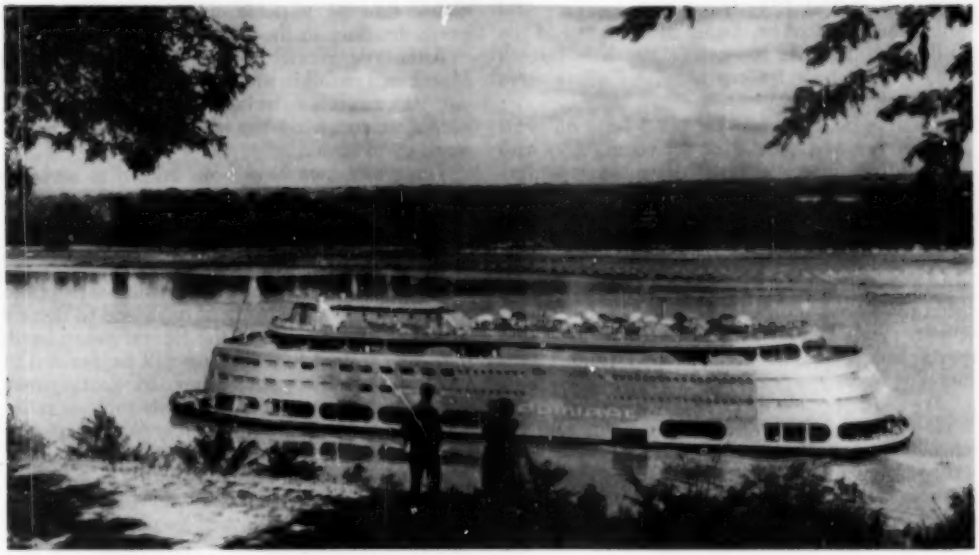


Jefferson Hotel

Business Meetings and Program Schedule

June 17th and 18th	Board of Directors Meetings
June 19th	
9:00 a.m. to 5:00 p.m.	**School Section**
5:00 p.m. to 8:00 p.m.	The Blue Note Mixer — Eastern Missouri Chapter, Host
June 20th	
9:00 a.m. to 12:00 noon	Registration
10:00 a.m. to 12:00 noon	Group Meetings — Veterans Administration, Official Crippled Children's Programs, Crippled Children's Societies, Self-Employed, State Examining Committees
2:00 p.m. to 5:00 p.m.	Opening Session — Greetings, President's Address, Speaker to be announced
7:00 p.m.	A Night at the Opera — St. Louis Municipal — Outdoor
June 21st	
9:00 a.m. to 12:00 noon	House of Delegates
2:00 p.m. to 5:00 p.m.	**Introduction to Workshop Technics** **Leader** — Earnest Brandenburg, Ph.D., Acting Dean, University College, Washington University **The Workshop Philosophy** — The Dynamics of Groups — **Listening and Understanding** — What are the Characteristics of Successful Workshops
June 22nd	
9:00 a.m. to 12:00 noon	**Scientific Workshops** Test Measurements and Evaluation Procedures in Physical Therapy Physical Therapy in Orthopedics Treatment Procedures in Physical Therapy Elements of Administrative Responsibility and Communication Physical Therapy within the Framework of Community Agencies Interpretation of the Profession and Educational Opportunities
2:00 p.m. to 5:00 p.m.	House of Delegates
6:00 p.m. to 7:30 p.m.	Reception of National Officers
7:30 p.m.	Annual Banquet
June 23rd	
9:00 a.m. to 12:00 noon	**Scientific Workshops Continued**
2:00 p.m. to 5:00 p.m.	**Research Section** **Chapter Workshop**
7:00 p.m. to 10:00 p.m.	Scientific Movies
June 24th	
9:00 a.m. to 10:00 a.m.	**Scientific Workshops Concluded**
2:00 p.m. to 5:00 p.m.	**Chapter Workshop** Visits to local Physical Therapy Departments

A recess will be scheduled each morning and afternoon to visit exhibits.



S. S. ADMIRAL on one of its daily cruises downriver

Make a Date

How does *your* date-book read for June 19th through 25th? Let's hope that's a rhetorical question and that already you've blocked off those dates for *Conference* in air-conditioned St. Louis (no, there is no protective bubble over the city, but you'll be comfortable; it's a fact that there are more air-conditioners in St. Louis than anywhere else in the United States). You've reserved those days and nights for all that conference means—stimulating program, friends, interesting views, and fun. Now, in *visible* ink, add these fillips to the "fun" you wrote invisibly with *Conference.*

Sunday evening, June 19—**The Blue Note Mixer**

Here's the time to catch up with old friends and to make new.

Monday night, June 20—**Municipal Opera**

Production and cast to be announced in next issue. Make up a party and be ready to write direct for reservations. Clip the coupon in the next issue and hurry it off to the Muny!

Tuesday night, June 21—**Free Time**

What's for you? Moonlight cruise on air-conditioned S. S. Admiral or alumni get-together?

Wednesday evening, June 22—**Banquet**

Good food and — sh-h-h-h — the entertainment committee has gone all out and done it—don't miss it—the one and only in the world!—be sure to come and add a hilarious memory to your store.

Does *Vacation* follow *Conference* in your date-book? St. Louis itself offers an urban holiday with much to do and see, but wherever your chosen vacation-land, transportation from this city will be simple to arrange.

Haven't decided? Driving? Give some thought to exploring the friendly Ozarks, America's oldest range—the land of hills and lakes; land of the Elizabethan ballad and the square dance.

Follow Dan'l Boone's Lick Road (U.S. 40, now) and be on the trail out of which grew the Sante Fe, the Salt Lake, and the Great Oregon Trails. Drive west 170 miles through "Little Dixie," stronghold of southern sentiment during the War Between the States, and the land ruled by "syndic" Boone. Cross the Missouri River again at Boonville and turn south through Versailles and the gateway to the heart of 50,000 square miles of scenic mountains has opened.

Lake resorts? Fishing? Hiking? Riding? Exactly 178 miles west-southwest of Conference site is the Lake of the Ozarks, 129 miles long with an indented, fantastic shoreline of 1,372

miles. Beautiful Lake Taneycomo is only 250 miles southwest of St. Louis in "Sheperd of the Hills" country. At Rockaway Beach is "Ozark Mac" McMaster's famous old hotel where there are no strangers.

Taneycomo is the starting place for a different kind of holiday, too. Pick up your guides and gear at Branson for a "float" down the serpentine White River—catching bass or merely floating, camping on shore at night. Jim Owen, "king of the White," will supply you with everything from guide to hooks and can-opener for two days or weeks or months of float fishing. There is no need for a hard return trip upriver on the White, either. With the river tying itself in knots, the party can be driven back to base from a rendezvous in an hour or two.

Are you a spelunker? Missouri's long stay under the sea left it a happy-hunting-ground for cave explorers. Meramec, Onondaga, and Marvel Caverns are only three of the hundreds open to visitors. If Mark Twain is a favorite author, you'll want to visit "Injun Joe's" cave and see Aunt Polly's house with its drain-pipe which led to "The Adventures of Tom Sawyer." Hannibal is just 115 miles north on the Mississippi from St. Louis.

Plan to holiday in a region rich in history and scenic beauty, a region of sharp contrasts: where the mountains have preserved the speech, attitudes, poetry, and music of early Anglo-Saxon settlers; and the broad highway of the Mississippi, transporter of exquisite possessions from France two centuries ago, has produced the ancient and beautiful town of St. Genevieve (66 miles south of St. Louis) where descendents of the original families still portion their days by the Angelus.

Do It Yourself In '55

"This is How"

Reread the February *Review* for the first installment.

After the Tuesday afternoon Introduction to Workshop Technics you will be all set to go into action on Wednesday, Thursday and Friday mornings. Workshops determined by our popularity contest in the fall are listed on page 140 under the schedule of meetings.

Ten workshop groups will be in session with three sections each on Tests, Measurements and Evaluation Procedures; Physical Therapy in Orthopedics; and one on each of the others. What you may expect to talk about in any one of these groups will be further described by an elaboration of possible questions within each group heading in the April *Review*.

After you receive your registration card in March and enroll in the Workshop of your choice you will receive material which will help you in preparing to attend the workshop—your homework so to speak.

Three members have been invited to serve as leaders ("self-starters") for each group. They have been selected on the basis of their knowledge and experience in that particular area of physical therapy.

At the Wednesday morning session each group will set up its own agenda of questions to discuss within the framework of the topical group heading. The rest of the morning will be devoted to starting the discussion. You, as participants, will bring with you any materials such as reference lists, books, slides, movies, photographs or samples of resource material pertaining to your group topic. All of Thursday morning will continue with an exchange of your ideas. Before Friday noon each group will prepare a summary of its discussions with conclusions reached. Shortly after the conference these will be compiled and sent to all who attend so that even though you participate in only one workshop you will receive summaries of all the others.

This will be the best chance you've had to get down to brass tacks in solving your everyday professional problems. You can't afford to miss it!!

Facts About the Conference

Hotel

The Jefferson Hotel is entirely air-conditioned and is the largest hotel in St. Louis. It adjoins the retail shopping and theater districts.

Rates

Are from $6.00 for a single room and bath. Rooms with double bed and bath for two start at $9.00. Twin-bedded rooms with bath for two start at $11.00. Suites start at $25.00.

Hotel Reservations

Reservations are made directly with the hotel. Reservation cards will be sent out with the dues notices. Those who wish to room together should send in only one reservation including names of all roommates. The number of minimum priced rooms is limited and the hotel will acknowledge reservations within a range dependent upon availability at the time of arrival. When single rooms are filled the hotel will assign roommates.

Registration

Active and Inactive Members	$5.00
Student Members	1.00
Other Physical Therapy Students	2.00

Advance registration cards will be sent to members with the dues notices. If you do not register in advance you *must* present your membership card when you register.
Physical therapists who are graduates of approved schools but not members of the Association may attend the general sessions on introduction by a member and paying a registration fee of $15.00.

Workshops

Scientific workshops are part of the program. Refer to the description elsewhere of their content. Members may attend only one workshop of three sessions and must register in advance for the one of his choice on the card provided.

Exhibits

The Exhibit Manager is Gordon M. Marshall, 30 W. Washington, Chicago 2, Illinois. Scientific exhibit space is assigned by the American Physical Therapy Association.

Opera

A block of seats has been reserved at the Outdoor Municipal Opera for Monday night, June 20. Members will order their tickets directly by using the order form from the April or May issue of the *Physical Therapy Review*.

Motion Pictures

Time has been set aside for showing motion pictures and slides which would be of interest to physical therapists. If any members or organizations wish to present movies, filmstrips or slides, application blanks may be obtained from the American Physical Therapy Association, 1790 Broadway, New York 19, New York. Since the time limit will not permit all movies to be shown, application for inclusion in the program should be made early. The deadline for all applications is April 1, 1955.

The Program Committee will select those films and slides which in their judgment will be of greatest interest to the audience and which will fit into the time allotted. Only films and slides thus selected will be shown.

Research and Clinical Studies Section

Abstracts of papers to be read at the 32nd annual meeting of the American Physical Therapy Association which meets in St. Louis, Missouri, June 19-25, 1955, are due in the National Office, 1790 Broadway, New York 19, N. Y., on or before March 15, 1955.

Abstracts should be not more than 250 words long, or one typewritten page, double-spaced. Abstracts should be sent in triplicate to expedite review by the Research and Clinical Studies Committee.

Abstracts should have a concise but inclusive title. Other information required is the full name of the author or authors, degrees held, position, and the institution where the work was done.

Titles will be selected and essayists notified by April 1st. Discussants will be selected from the membership of the Association.

Completed papers are due in the National Office by May 15.

Dr. Wilton Krogman Featured in *Saturday Evening Post* Story

From time to time during the past several years the *Review* has been proud to list among its book reviewers the name of Wilton M. Krogman, Ph.D. Our readers will be interested in an article about Dr. Krogman in the January 15th issue of the *Saturday Evening Post*, "The Doctor Who Solves Murders."

Dr. Krogman is a physical anthropologist at the University of Pennsylvania who, as head of the Philadelphia Center for Research in Child Growth, received the Viking Award in Physical Anthropology of the Wenner-Gren Foundation in 1950. His most recent contribution to the *Physical Therapy Review* was a book review in the October 1954 issue on "Dynamics of Growth Processes." Dr. Krogman's review of "Atlas of Men. A Guide and Handbook of Somatotyping" will appear in the April issue.

Photo Contest Winners

1st Prize — $50.00

Phyllis Carleton
Blodgett Memorial Hospital
Grand Rapids, Michigan

Next best entries: ($5.00 each)

Elizabeth M. Waite
Tichenor Clinic
Long Beach, California

V. Pat Frick
825 Vickroy Avenue
Johnstown, Pennsylvania

Physical Therapy Department
Evangelical Deaconess Hospital
St. Louis, Missouri

Lucy J. Straw
North Carolina Orthopedic Hospital
Gastonia, North Carolina

Tom E. Hammer
408 Brentwood Avenue
Johnstown, Pennsylvania

The prize-winning photographs will be exhibited at our annual conference in June.

Our congratulations to the winners and our thanks to all APTA members for their interest and cooperation in our Photo Contest.

The 95 photographs eligible for entry were well-planned and expertly photographed and selection of the prize winners was difficult. Those photographs which did not win a prize will be used in our recruitment program.

Student Section

The School Section has gone full turn and now has come of age. It is one year old and has truly been a modern child. It has grown and prospered thanks to the concern and care of all.

With the close of the year some changes now take place. Some of us have graduated and pass the section into the capable hands of other students.

We wish to thank the officers of the American Physic d Therapy Association and the *Physical Therapy Review*, especially Miss Elson and Miss Vance for all their help and guidance throughout our little emergencies of publication. We also want to thank the committee members and students whose efforts and contributions have made the section possible. Many of the committee have gathered the material under personal duress and with much burning of the midnight oil and were unstinting in their efforts.

To all of you may we express our sincere thanks and wish the student section a long and successful life.

MARION E. KROUPA

A Simple Finger Goniometer

Virginia Congreve, M.A.

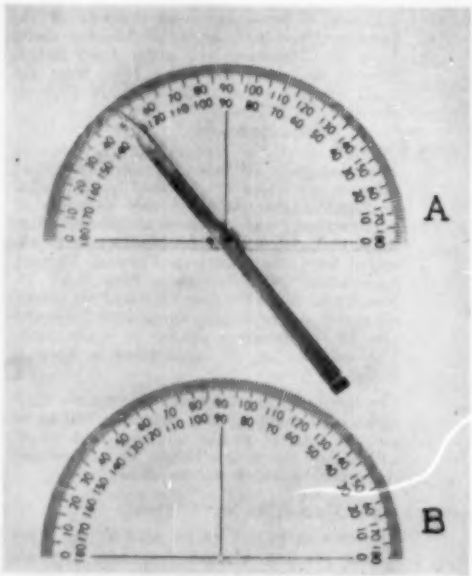
Many times it is necessary to make inexpensive, yet serviceable equipment in physical therapy departments. A simple finger goniometer, figure 1A, can be made just that way.

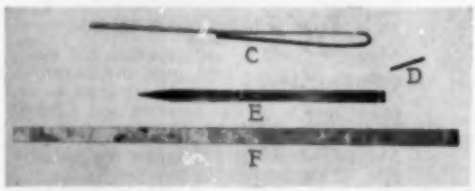
The 4 inch, 180 degree plastic protractor, figure 1B, was used for the base. This may be purchased at an art supply house, engineering supply house, or at a stationery store. There is a space of 5/16 of an inch between the 0-180 degree line and the edge of the protractor, which is just enough distance for a hole to be made by a No. 58 drill at the midway point.

The initial brass strip, figure 1F, is 7 inches long and ¼ inch wide. It is then bent (figure 1C) so that the longest side is 4½ inches and the shortest side is 2½ inches and it is narrowed to 2/8 of an inch.

The completed pointer, figure 1E, is 4 inches in length and is fastened to the protractor with a brass brad, figure 1D.

This finger goniometer can be used easily and effectively in measuring flexion and extension of all joints of the finger. The plastic protractor itself can rest on the dorsum of the proximal part, and the end of the brass arm can follow the flexed part of the finger, while the pointer then gives the measurement. For hyperextension at any joint, the protractor may be placed on the palmar surface of the hand and measured as above.





Student Northwestern University Medical School, Physical Therapy Course, 1953-1954.

We wish to express our appreciation to Sager Metal Weather Strip Company, Chicago, Illinois, for making this goniometer.

Personalities from Abroad

In September, 1953 there came to join our class at Mayo three young people from without our continental borders. Carmen Uribe arrived from Bogota, Colombia, South America; Mira Mundkir from Bombay, India; Sami El Beheri from Cairo, Egypt.

In the photograph, on the left, is Carmen, age 22, a petite senorita, five feet two; she draws not a few smiles in the corridors as she gives gait training to hefty fellows who tower above her. And although she may have to stand on a foot stool to massage, she is none the less competent.

Carmen was stricken with polio when 5 years old, resulting in one partially crippled leg. When 11 she came to Warm Springs, Georgia for rehabilitation. It was a result of these early incidents that her desire to enter the field of physical therapy developed during her high school years. She attended the University Mayor de Cundinamarca, taking her major in Bacteriology. From there her determination to study physical medicine and learn the technics of rehabilitation for polios led her to Mayo Clinic. (In South America, Mayo is very well known and commonly spoken of.) Arriving in New York she was pictured on TV there, and was later on a TV show in Omaha. Her difficulties with our language caused her no small problem during the first few months of classes and also provided moments of humor for the rest of us, but she surmounted the obstacles and goes on her merry way.

At present Carmen treats many patients from her native country as we have many South Americans reporting to the Section on Physical Medicine; quite a number of these speak no English, and thus welcome a physical therapist who makes them feel at home. Carmen will return to Colombia to work in an institution for polio. There is one rehabilitation center (mostly polio) in Bogota, the only one in Colombia and one of the very few in all South America. There are small therapeutic sections in two Bogota hospitals; and Colombia has one school of physical therapy, also in Bogota. Other than that the field in South America is wide and unsupplied. Carmen reports an excess of polio and an immediate need for polio rehabilitation; thus she will return to her own country to help supply that need. May her story be an encouragement to others, as it most surely is to us.

Mira Mundkir, age 25 (pictured at the right), came to us from Bombay, India. Mira is one of

Carmen Sami Mira

those pleasant, quiet, even retiring persons we meet so seldom in bustling, rushing America. She speaks English perfectly, in fact shames us in our native tongue. Mira came to the United States for physical therapy training, spent one year at New York University taking various subjects before she arrived at Mayo in September 1953. She attended Government College at Mongalore, majoring in both science and arts. Her science majors run toward the physical science field, her arts to journalism. She then worked one year as a volunteer in the Society for Rehabilitation of Crippled Children in Bombay, an Indian center under English supervision. Previous to her departure from India she was also working on her Master's degree in journalism.

Mira in her native sari adds a bright touch to our "after working hours" gatherings, and occasionally with much coaxing we can induce her to sing a few of her homeland songs. She is an excellent physical therapist, in fact all that Mira undertakes she does well. She plans to return to India immediately following her graduation from Mayo in September 1955, to practice and perhaps teach physical therapy.

In India there is no physical medicine as such, with trained Indian therapists; there is only the S.R.C.C. (where Mira worked following college graduation). The field is in dire need but no trained personnel are available. In India there are many crippling diseases, malnutrition effects, polio; and the health centers are not able to reach all people in the outlying districts. The resulting need for physical therapy is great. At present Ceylon has a ten-year program whereby physicians and interested workers are sent to England and America for physical medicine training; the doctors spend two years at Guys Hospital in London, followed by six months in America

observing therapy sections. Thus far one doctor has just recently returned to Ceylon, having spent three months here at Mayo; and another is here at present. Thus Ceylon is hoping to set up a Physical Medicine and Rehabilitation center under the supervision of physiatrists and staffed by trained therapists. Bombay looks forward to establishing such a training program in the near future but as yet has nothing along this line.

Mira states that she appreciates the advantages at Mayo, mainly because of the many types we have the privilege of observing and treating. She feels this contact with such a wide variety of cases will best prepare her to fulfill the various and desperate needs of her own India. Her story, too, inspires us to learn well and work as diligently as is in our power.

In the center of the photograph is Sami El Beheri, age 25, who came to join us last fall as an exchange visitor student from Cairo, Egypt. He wishes to return to Egypt with a Master's Degree in Physical Therapy or in a basic related science, thus prepared to teach if the opportunity avails itself. Sami attended the College of Physical Education in Cairo and taught physical education for one year in a high school in Alexandria. His degree is known as the Higher Diploma, a teacher's degree.

Sami will be rather a pioneer in Egypt as there is no trained physical therapist in his country at present; and has been only one, Sami's teacher in college who is now at the University of Minnesota and not returning to Egypt.

Upon arrival here Sami was most impressed with the American popsicle and consumed large quantities during those warm September days in our early training period. He had never seen snow, thus could scarcely wait for the famed Minnesota snowbound winters. He was also fascinated by the drive-in stands and drive-in theaters, of which Egypt has neither. Sami with his soul-revealing brown eyes and his clipped English-Egyptian speech is a familiar figure in our departments and at our parties. His future hopes lie in Egypt's betterment of the field of physical medicine. He will return to teach or practice in either Alexandria or Cairo, upon completion of his studies in America.

We enjoy all three of our therapists from without the continent and feel it is a privilege to have them a part of our class. We wish them fortitude and good fortune upon their return to their native lands.

BEVERLY KINDIG
Mayo Clinic
Class of '55

Progress

Joyce Caffman

Three cheers! We now have a brand, spanking new Physical Medicine and Rehabilitation Department at the University of Minnesota. In order to fully understand our exuberance, I must tell you some of the history of our school.

In June, 1941, the first physical therapy class enrolled. Now it's human nature to complain and how those first classes did complain! *I* think they had some very legitimate gripes, but let me tell you about it.

Their classes were held in the most peculiar locales. Nice, comfortable spots like the blood storage room where an old refrigerator took off in high gear every five minutes! Then, (oh, happy day!) they got another classroom. This time it was right next to the ambulance entrance. Weren't they lucky? The school had really progressed by the time our class enrolled. We had a very nice classroom. You'd never guess where, but it really was a logical place. The Chemical Engineering building, where else? Since about 90 per cent of the P. T.'s were female, and 95 per cent of the engineers male, why not get them together? And what is more amusing than to see the staff sprinting down the avenue from a small "temporary" building two blocks away?

Now that I have told you how things *were* — let me tell you how things *are*. A new building has been erected on Campus, an addition to the University Hospitals. It has been dedicated Mayo Memorial Hospital in memory of the Drs. Charles and Will Mayo for their great contributions to the field of medicine. Physical Medicine and Rehabilitation has two full floors: 7th and 8th.

Seventh floor houses the Clinical Physical and Occupational Therapy Departments. The large waiting room opens to a roof recreational area, and will eventually give expansion in two other directions for better Speech and larger Occupational quarters.

On the eighth floor is the general office and offices for the course directors and all instructional staff, conference rooms, research laboratories, electromyography and constant temperature rooms, prevocational counseling and testing. But most important is *our* classroom! We are proud of this fully equipped room which makes both teaching and learning processes easier.

Aided by a scholarship from the National Foundation for Infantile Paralysis.

In speaking of our progress, I feel I must mention our Physical Therapy Club. We believe we are the only club whose sole purpose is to "promote fellowship among students of physical therapy at the University of Minnesota." The educational aspect of our Club is taken care of in the Minnesota Chapter of the APTA. We feel this "fellowship" is important and we plan a party each quarter with an all-out party in the spring for the graduates. The Juniors plan the entertainment, utilizing their own talent, most often with the staff as the targets! "For they are jolly good fellows. . . ."

Our school has come a long way since 1941, but with new quarters, we look forward to adding many more graduates to the 132 who have passed through our capping line.

From Wisconsin

Susan Howe

Let yourselves be heard, we were urged, so the physical therapy students of Wisconsin University speak. But that's not all that speaks, as we remember the warning in massage class that if we poke hard enough on our partner's abdomen, it will growl back at us. Massage lab also inspired this poetic effort:

As I massage your lumpy back,
I think of all the things you lack.
I dream of things as yet unseen,
Necrosis, infarcts, and gangrene.

A new definition of conversion hysteria was overheard; "When I converse, she gets hysterics," and, from one of our prodigies when the remark was made of the short duration of a class due to our receiving several immunity shots, "Yes, just like a shot in the arm."

There is also the serious side. The senior class elected to have additional observation in the hospital for two hours each week. We not only observe patients and learn about their disabilities, but also are sometimes afforded the opportunity to massage, give a muscle test and practice other procedures newly learned. We also work with patients in the clinic during therapeutic exercise class doing goniometry and muscle reeducation. Further, this contact with therapy equipment has given some of the students inventive ideas for assistive devices.

Even before the clinical observation and intensive studies of the senior year made us fully aware of physical therapy's function and ramifications, all but a few of the seniors had worked in hospitals during summer vacations and strongly advise this experience for student physical therapists. The undergraduate often has been reassured in this way that his career selection has been wise. We must admit that at first most of us are vague about what our field consists of, but through this experience not only do we better understand physical therapy for our own benefit, but also, and perhaps even more important, we can correct the various misconceptions held by so many laymen. Examples of these have been cited to me: physical therapy means lifting weights, something like physical culture; or, it is sort of like a boxer's training camp; and, "Why is the patient playing all these games? Isn't that something they do with crazy people?" Needless to say, there is great satisfaction in explaining to the bewildered the methods and reasons behind them.

Our monthly group activity, the Physical Therapy Club, is a source of education and recreation. The October meeting was designated for getting classmates acquainted, while the November gathering oriented us on topics such as the physical therapist in the armed services, industrial clinics, cerebral palsy clinics, and other fields including the small general hospital. Our staff presented this program.

Medical College of Virginia

The School of Physical Therapy at the Medical College of Virginia opened the 1954-1955 school year with a total enrollment of fifty students; forty twelve-month students and ten two-year.

For the first time in the history of the school, a two-year course leading to a B.S. degree granted by the Medical College of Virginia has been installed.

The plans are to continue the twelve-month course as long as deemed necessary but, eventually to have only the two-year course here at the Baruch Center of Physical Medicine.

Early in the school year a student-faculty "Get Acquainted Picnic" was held. It was quite enjoyable and proved to be most worthwhile in helping the students become better acquainted with their classmates as well as with the faculty.

We would like to take this opportunity to welcome Mr. Carlton Jones as a new member of the school faculty. He received his training at New York University.

Aided by a scholarship from the National Foundation for Infantile Paralysis.

This year the class is continuing the school tradition of publishing its own school paper, "The Baruch Scoop." This paper is published three times a year and contains news of the school, alumni, and various articles about different aspects of physical therapy. The Thanksgiving issue was published and mailed to the alumni of the school.

Plans were made and the annual Christmas Party was given by the students for the patients in the hospital here. Each student adopted two patients to help make Christmas a little happier for them. In addition to the party for the patients, the class enjoyed a social hour.

ANN MCINTOSH
MCV Student Reporter

Postgraduate Instructional Course

A three-day and two-evening course, "Demonstration of Clinical Management of Poliomyelitis," sponsored by Baylor University College of Medicine, Southwestern Poliomyelitis Respiratory Center and Jefferson Davis Hospital, Houston, Texas, will be given April 19, 20, and 21, 1955. The course is designed to cover the complete care of poliomyelitis with emphasis on the severely involved patient. It will include lecture discussions, case conference demonstrations, use of respiratory equipment, and small group participation in special interest fields including physical therapy.

Preference will be given to personnel who are or will be directly concerned with poliomyelitis patient management.

A selected number of nurses, physical and occupational therapists may arrange to stay two weeks or one month for additional work in their particular area of interest.

Accommodations must be arranged by the individual. Address inquiries to:

William A. Spencer, M.D., Medical Director
Southwestern Poliomyelitis Respiratory Center
Jefferson Davis Hospital, 1801 Buffalo Drive
Houston 3, Texas

Five-day Course in Poliomyelitis

The Orthopaedic Hospital and Rancho Los Amigos Respiratory Center, Los Angeles, announce a five-day course in poliomyelitis, May 2-May 6, 1955, aided by a grant from the National Foundation for Infantile Paralysis, for physicians, nurses, physical therapists, and occupational therapists.

The course is open to physical therapists who are graduates of an AMA approved school. It is designed to present all phases of patient care and rehabilitation including opportunity for ward experience with respirator patients and equipment at the Rancho Los Amigos Hospital. Coordination of services will be stressed. Address inquiries to:

Polio Teaching Program, Orthopaedic Hospital
2400 S. Flower St., Los Angeles 7, California

Editorial Board Member

Ruth M. Latimer of Richmond, Virginia, is an additional appointment to Assistant Editors of the *Review*.

New Student Members

Bouve-Boston

Frances Matheson	Anne Morrill

Duke University

Frances Corley	Frank Martin
Barbara Gwynn	Patricia Payne
Ellen Harris	Jane Poisal
Betty L. Harris	Ann Rezzonico
Rae M. Litaker	Jenell Smith

New York University

Neil LaForest

Stanford University

Harry Creeger	Dorothea Everett

University of Colorado

Arleen Hilgenhurst

University of Connecticut

Ruth Gervis	Nancy Hayden
	Beverly Klambt

University of Kansas

Rita Menghini	Phyllis Wood

University of Pennsylvania

Julie Correale	Janet Kingett
Robert Cypres	Jeanne Mohr
Paul Dioguardi	Edna Otte
Ella J. Fraser	Donald Shipley
Vincent Imperatrice	Patricia Turner
Margaret Kelly	Margaret Ann Willson

University of So. California

Miguel Sulsona

General News

Lawrence J. Linck Resigns as Executive Director of National Society

Lawrence J. Linck, one of the country's best known leaders in the health and welfare field, has resigned as executive director of the National Society for Crippled Children and Adults, it was announced by Edgar Kobak, New York, president. No effective date has been set.

Pending appointment of a new executive director, Mr. Linck will remain in his present post in Chicago. Mr. Kobak, speaking for the Board of Trustees, expressed the hope that Mr. Linck would continue to serve the Society in his voluntary role as secretary and as consultant to the Board of Trustees. Mr. Linck has not announced his future plans.

Mr. Linck's resignation climaxes a ten-year record of achievement marked by phenomenal growth in the number of crippled children helped and the kinds of professional services made available to them. In 1954, a record total of 118,000 crippled persons, of whom 100,000 were children, were given direct care and treatment by the Easter Seal Society nationwide. At the same time, the number of facilities and programs giving these services reached the unprecedented total of 1,000. Under Mr. Linck's direction, the National Society thus became the largest voluntary organization in the world serving the crippled.

Since joining the National Society in 1945, Mr. Linck has expanded the organization from 17 fully accredited state societies to a total of 52 such units including all 48 states, District of Columbia, Alaska, Hawaii, and Puerto Rico.

Mr. Linck brought the National Society to the forefront of voluntary health agencies and enhanced both its effectiveness and its prestige during the decade of his service. His achievements have won wide recognition from medical leaders, educators and other distinguished persons who have watched at first hand the progress he has brought about.

Under his leadership, the National Society also created the Easter Seal Research Foundation to undertake special projects to find new ways of helping the crippled.

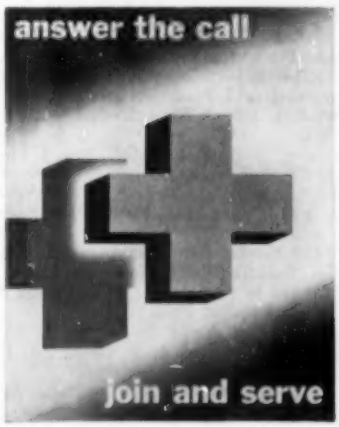
Mr. Linck is a member of the Board of Directors and Executive Committee of the National Health Council and is the United States representative on the Council of the International Society for the Welfare of Cripples.

Mr. Linck has had a distinguished career in other aspects of health and welfare. Prior to joining the National Society, he was simultaneously for five years, executive director of the Illinois Commission for Handicapped Children and director of the University of Illinois Division of Services for Crippled Children.

National League for Nursing Convention

Mrs. Oveta Culp Hobby, secretary of the Department of Health, Education and Welfare, will be the keynote speaker at the National League for Nursing Convention in St. Louis, May 2-6, 1955.

Theme of the Convention, second in the National League for Nursing's history, is to be "Good Nursing for a Growing Nation—Improved Education, Better Services, Citizen Participation." The long-range objective of the National League for Nursing is to make better nursing care available to the people of the United States through improving services and education and by enlisting the support of everyone interested in nursing. The NLN is unique among nursing organizations in that its members include men and women who aren't nurses as well as professional and practical nurses.



Index to Current Literature

The Clinical Course of Systemic Lupus Erythematosus. P. A. Tumulty, J.A.M.A., 156: 947-953, November 6, 1954.

International Health Organization. Fred L. Soper, J. A. M. A., 156: 1145-1146, November 20, 1954.

International Education Problems. Hamilton H. Anderson, J.A.M.A., 156: 1151-1154, November 20, 1954.

Plastic Splints for Neurological Conditions. Everill W. Fowlks, J.A.M.A., 156: 1154-1156, November 20, 1954.

Congenital Anterior Dislocation of the Knee. R. T. Odell and E. P. Holt, So. Med. J., 47: 1056-1061, November, 1954.

Experience With Anthroplasty of the Hip Using Hip Prostheses. Harry Winkler, So. Med. J., 47: 1062-1066, November, 1954.

Poliomyelitis Prophylaxis. C. H. Andrews, The Practitioner, 173: 540-550, November, 1954.

The Importance of Coxsackie Viruses. Edward A. Beeman, The Practitioner, 173: 551-564, November, 1954.

Dermatomyositis in Childhood; A Summary of 40 Cases. H. M. Roberts and L. A. Brunsting, Postgrad. Med., 16: 396-404, November, 1954.

Tobacco as a Cause of Lung Cancer. Ernest L. Wynder, Penn. Med. J., 57: 1073-1083, November, 1954.

Review of the Literature and Clinical Application of Ultrasonics. A. A. Martucci, Penn. Med. J., 57: 1091-1096, November, 1954.

Rheumatic Fever and Rheumatoid Arthritis. C. Ragan, T. Bayles, E. E. Fischel, J. L. Hollander, and T. D. Jones, Bull. N. Y. Acad. Sci., 30: 863-885, November, 1954.

Paper Electrophoretic Studies in Multiple Sclerosis. E. Roloz, W. C. Hess, F. Forster, and D. Temple. Neurology, 4: 811-817, November, 1954.

Meningitis. A. L. Sabs and R. A. Utterback, Neurology, 4: 869-875, November, 1954.

A New Respirator. E. A. Shultz, J. R. Gordon, D. S. Weatherhead, F. H. Van Bergen, J. J Buckley and C. W. Field., Bull. Univ. Minn. Hosp. and Minn. Med. Found., 26: 136-145, November 5, 1954.

Cervical Ruptured Discs. William B. Scoville, Conn. State Med. J., 18: 894-895, November, 1954.

The Mechanism of Cardiac Failure. Louis N. Katz, Circulation, 10: 663-679, November, 1954.

The Assessment and Treatment of Facial Palsy. E. D. R. Campbell, Brit. J. Phys. Med., 17: 215-218, October, 1954.

Pool Therapy. James P. Campbell, Brit. J. Phys. Med., 17: 224-226, November, 1954.

The Participation of the Patient in Treatment. Julius Merry, Brit. J. Phys. Med., 17: 227-231, October, 1954.

Surgical Alleviation of Parkinsonism: Effects of Occlusion of the Anterior Choroidal Artery. I. S. Cooper, J. Am. Ger. Soc., 2: 691-718, November, 1954.

Renal Changes in Paraplegia. A E. Comarr, J. Urol., 72: 596-605, October, 1954.

Effect of Pudendal Nerve Operations on Neurogenic Bladders. E. Bors and A. E. Comarr, J. Urol., 72: 666-670, October, 1954.

Organizing an Occupational Therapy Department. Beatrice Wade, Hospitals, 28: 92-99, November, 1954.

Disappearing Bones: A Rare Form of Massive Osteolysis: Report of Two Cases, One With Autopsy Findings. L. W. Gorham, A. W. Wright, H. H. Shultz, and F. C. Maxon. Am. J. Med., 17: 674-682, November, 1954.

The Diagnosis of Herniation of Intervertebral Discs in the Cervical Spine. M. D. Rawkins, Brit. J. Phys. Med., 17: 219-223, October, 1954.

The Management of Pain. Daniel C. Moore, Ill. Med. J., 106: 236-241, October, 1954.

Immunization in Poliomyelitis. H. E. Van Riper, J. Bone & Jt. Surg., 36-A: 893-901, October, 1954.

Prognostic Implications of Electromyography in Acute Anterior Poliomyelitis. H. Hertz, A. Madsen and F. Buchthal, J. Bone & Jt. Surg., 36-A: 902-911, October, 1954.

A Back-Knee Brace. Herbert E. Hipps. J. Bone & Jt. Surg., 36-A: 1080-1081, October, 1954.

Functional Brace for the Paralyzed Hand. Herbert Kent, J. Bone & Jt. Surg., 36-A: 1082-1086, October, 1954.

Dynamic Exercises for Lower Extremity Amputees. Otto Eisert and Owen W. Tester, Arch. Phys. Med. & Rehab., 35: 695-704, November, 1954.

A Functional Handsplint for the Cerebral Palsied Child. S. M. Dorinson, P. McLaughlin and M. Markus, Arch. Phys. Med. & Rehab., 35: 711-713, November, 1954.

The Fourth John Stanley Coulter Memorial Lecture: The History of the American Congress of Physical Medicine and Rehabilitation. Walter J. Zeiter, Arch. Phys. Med. & Rehab., 35: 683-688, November, 1954.

Does Occupational Therapy Meet the Demands of Total Rehabilitation? Edward E. Gordon and Thelma L. Wellerson, Am. J. O. T., 8: 238-240, November, 1954.

Laterality of Upper Extremity Function in Physically Handicapped Children. Antje Price, Am. J. O. T., 8: 241-259, November, 1954.

The Home Visit in a Cerebral Palsy Treatment Program. H. Z. Wortis, W. Cooper and M. P. Simonson, Am. J. O. T., 8: 260-262, November, 1954.

Exercise to Develop Range of Motion of the Forearm. Lottie V. Blanton, Am. J. O. T., 8: 263, November, 1954.

Pulmonary Vascular Effects of Moderate and Severe Hypoxia. R. C. Stroud and H. L. Conn, Jr., Am. J. Physiol., 179: 119-122, October, 1954.

Spontaneous Relaxation in Glycerol-Extracted Muscle Fiber Bundles. R. E. Ranney, Am. J. Physiol., 179: 99-103, October, 1954.

Disturbances in Reticulo-Endothelial System Following Thermal Injury. G. F. Warner and E. L. Dobson, Am. J. Physiol., 179: 93-98, October, 1954.

Adrenalectomy and Nerve Excitability. A. G. Slocombe, L. S. Tozian and H. Hoagland, Am. J. Physiol., 179: 89-92, October, 1954.

Medical School Responsibilities for Education in Radioactivity. J. A. Cooper and A. M. Brues. J. Med. Educ., 29: 29-32, November, 1954.

Education for Continuity of Care. J. M. Dorsey, P. W. Knapp and L. K. Frank, J. Med. Educ., 29: 20-28, November, 1954.

An Approach to Interprofessional Understanding. Ruth Kotinsky, Children, 1: 203-206, November-December, 1954.

Physical Therapy Programs—1955

APPROVED BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION

DEGREE and CERTIFICATE PROGRAMS—Information on specific entrance requirements should be obtained from the schools listed below. Schools offering a degree will accept high school graduates for the four year program leading to a baccalaureate degree, *as well as transfer students.* A certificate program is a concentrated course of study offered to those who have completed all or most of their undergraduate work before declaring a major in physical therapy. Graduates of either the degree or certificate programs are equally qualified.

	Degree Program	*Certificate Program*
California		
School of Physical Therapy Childrens Hospital Society (Univ. of California at Los Angeles) 4614 Sunset Boulevard Los Angeles 27	†	†
School of Physical Therapy College of Medical Evangelists White Memorial Hospital Boyle and Michigan Avenues Los Angeles 33	†	†
Department of Physical Therapy University of Southern California University Park Los Angeles 7	†	†
Curriculum in Physical Therapy School of Medicine University of California 3rd and Parnassus San Francisco 22	†	†
Division of Physical Therapy Stanford University Stanford	†	†
Colorado		
School of Physical Therapy School of Medicine University of Colorado 4200 East 9th Avenue Denver 7	†	†
Connecticut		
School of Physical Therapy University of Connecticut Box U 101 Storrs	†	
Illinois		
Course in Physical Therapy Northwestern University Medical School 303 East Chicago Avenue Chicago 11	†	†
Iowa		
Department of Physical Therapy State University of Iowa University Hospitals Iowa City		†
Kansas		
Section of Physical Therapy University of Kansas Medical Center 39th and Rainbow Boulevard Kansas City 3	†	†
Louisiana		
School of Physical Therapy Charity Hospital of Louisiana 1532 Tulane Avenue New Orleans 12		†
Massachusetts		
Department of Physical Therapy Boston University Sargent College of Physical Education 6 Everett Street Cambridge 38	†	†
*Course in Physical Therapy Bouve-Boston School Tufts College Medford 55	†	
*Program in Physical Therapy Simmons College The Fenway Boston	†	†
Michigan		
Curriculum in Physical Therapy University of Michigan 1313 East Ann Street Ann Arbor	†	†

*Accepts women students only.

	Degree Program	Certificate Program
Minnesota		
School of Physical Therapy Mayo Clinic 102-110 Second Avenue, S.W. Rochester		†
Course in Physical Therapy 860 Mayo Memorial University of Minnesota Minneapolis 14	†	
Missouri		
Division of Health and Hospital Services St. Louis University 1325 South Grand Boulevard St. Louis 4	†	
Department of Physical Therapy School of Medicine Washington University 660 South Kingshighway St. Louis 10	†	
New York		
*School of Physical Therapy Albany Hospital (Russell Sage College) New Scotland Avenue Albany 8	†	*
Courses for Physical Therapists Columbia University College of Physicians and Surgeons 630 West 168th Street New York 32	†	†
Physical Therapy Division School of Education, New York University Washington Square East New York 3	†	†
Program in Physical Therapy University of Buffalo 2183 Main Street Buffalo 14	†	†
North Carolina		
Physical Therapy Course School of Medicine Duke University Durham		†
Ohio		
Course in Physical Therapy Frank E. Bunts Ed. Inst. Cleveland Clinic Hospital 2020 East 93rd Street Cleveland 6		†
Pennsylvania		
Division of Physical Therapy School of Auxiliary Medical Services University of Pennsylvania 1818 Lombard Street Philadelphia 46	†	†
Division of Physical Therapy The D. T. Watson School of Physiatrics (In affiliation with the University of Pittsburgh) Sunny Hill Leetsdale	†	†
Puerto Rico		
School of Physical and Occupational Therapy Commonwealth of Puerto Rico State Insurance Fund San Juan, P.R.		†
Texas		
Grady Vaughn School of Physical Therapy Baylor University University Hospital Dallas	†	†
Hermann School of Physical Therapy Hermann Hospital 1203 Ross Sterling Avenue Houston 5		†
Division of Physical Therapy University of Texas School of Medicine Galveston	†	†
Virginia		
School of Physical Therapy Baruch Center of Physical Medicine and Rehabilitation Medical College of Virginia 1203 East Broad Street Richmond 19	†	†
Wisconsin		
Course in Physical Therapy Medical School, University of Wisconsin Madison 6	†	†
U. S. Army Medical Service		
*Physical Therapy Course Medical Field Service School Brooke Army Medical Center, Fort Sam Houston, Texas and Brooke, Letterman and Walter Reed Army Hospitals Write to: The Surgeon General Department of the Army Washington 25, D. C. Att: Personnel Division		†

*Accepts women students only.

Please direct all inquiries regarding tuition, entrance requirements and other specific information to the school and *not* to the American Physical Therapy Association.

Abstracts

Respiratory Recovery Rates after Poliomyelitis.

John F. Marchand and Aaron T. Marcum, AM. J. MED., XVII:683-702, November 1954.

Over 1,000 young adults and children have recently survived the acute stage of poliomyelitis in the United States. These patients have been left with a permanent or protracted respiratory muscle paralysis and with more or less complete quadriplegia. This paper deals with the different problems met in the management of the respiratory recovery of 20 of these patients with varying rates and degrees of recovery. The respiratory schedule is given following a brief history of each patient.

A gradual transition to altered use and compensatory hypertrophy of remnants of the primary or accessory muscles of respiration is stressed throughout this report. The most rapid improvement of course followed early regeneration of the diaphragm. Respiration recovery to a limited extent also occurred in a year or more following recovery of only a portion of the diaphragm, or through hypertrophy and new habituation of remnants of voluntary accessory respiratory muscles. Included in these were platysma, sternocleidomastoid muscles, remnants of rib muscles capable of raising the rib cage for inspiration, and remnants of muscles in the abdominal wall aiding expiration. Self-taught glossopharyngeal breathing was of supplementary value to one patient in this group.

Premature withdrawals of adequate respiratory aid at an early stage were followed by exhaustion, collapse, and a delay in recovery. It became apparent that efforts at forced weaning or endurance tests lead to exhaustion, asphyxia, and panic; that no useful purpose can be offered for forcing or misleading the respiratory cripple. Graded respiratory activity schedules worked best by far when regularly reviewed by the doctor in direct consultation with the patient and drawn up specifically within the limits of the patient's own estimate of his ability.

When either a retarded or rapid recovery occurred, it appeared to come about independently of hasty effort to break presumed psychologic or biochemical addiction from chronic overventilation or presumed emotional dependency on some particular mechanical respiratory aid.

Unfamiliar types of mechanical respiratory aid were regularly accepted as soon as the patient, secure in a tank respirator, discovered by trial that such other aids as tank respirator positive pressure dome attachments, cuirass respirators, or rocking beds could be adjusted to provide pulmonary ventilation adequate for comfort. Failures did occur when the ventilation provided was either insufficient or dependent on sustained effort leading to exhaustion. The presence or absence of subjective dyspnea was the most immediately useful bedside guide. Tidal air measurements also served as a covenient objective basis for estimating the adequacy of mechanical aids. The subjective estimate by the patient was most helpful for evidence by fatigue and well correlated with the corroborative objective signs of emotional lability and rapidly decreasing vital capacity measurements.

Early efforts at precipitous muscle reeducation did not appear justifiable. Short but gradually increased transfers from the tank respirator, up to several times a day, both to the rocking bed and to unassisted time, under close supervision, appeared to expedite best the rate of real lasting recovery. The cuirass respirator was also used as a mechanical aid to respiration and as an exercise one-half hour a day in hope of maintaining or restoring flexibility of the chest wall.

The Physiological Mechanism of Referred Shoulder-Tip Pain.

F. S. A. Doran and A. Hall Ratcliffe, BRAIN, 77:427-434, 1954.

The hypotheses to explain the phenomenon of "referred pain" fall into two groups, those postulating a mechanism situated in the spinal cord, which is the older, and those postulating a peripheral mechanism. The shoulder-tip pain is the striking example studied by the authors. The irritation of the central part of the diaphragm, supplied by the phrenic nerve, produces pain over the insertion of the trapezius muscle into the posterior border of the lateral one-third of the clavicle and the medial margin of the acromion.

The hypotheses in the central group are all modifications and elaborations of John Hunter's. He explained this sensory delusion in the following way. The area of the brain serving the shoulder and the diaphragm may both be activated by either of the two afferents concerned; if they are, there must be a nervous connection between them. Where the connection lay he did not specify but suggested that it might be within the brain itself. This hypothesis has been modified and elaborated upon by many in the last one hundred and fifty years.

The alternative, or "peripheral," group of hypotheses is of more recent origin. It was suggested in 1925 that "referred" pain was due to an autonomic reflex, originating in the deeper structures, which influenced the vessels in the skin.

The authors performed two experiments to test these two hypotheses.

First, the phrenic nerve was exposed and stimulated electrically in a patient who had been subjected to an operation in which all the supraclavicular cutaneous nerves arising from the cervical plexus had been removed. On every occasion that the test was applied, sharp pain was felt by the patient in the shoulder-tip area. Therefore, the antonomic nervous system plays no part in the production of "shoulder-tip" pain in man and a constant flow of subliminal impulses from the skin of the shoulder-tip area is not an essential part of the mechanism.

Second, it was found that the phrenic nerve possesses several hundred fibers of the appropriate size for the transmission of pain impulses.

Third, the phrenic nerve was stimulated in several patients until shoulder-tip pain was produced; the affected area of skin was then anesthetized and the nerve was again stimulated. It was then found that a more powerful stimulus to the phrenic nerve was required to produce pain. It is concluded, therefore, that the afferent impulses from the phrenic nerve, and those from the supraclavicular branches of the cervical plexus, terminate in the same "common pool" of neurones in the third and fourth cervical segments of the spinal cord; and that "summation" occurs.

Fourth, it was explained that pain is always felt in the "shoulder-tip" area because only the superficial tissues have distinct cerebral representation; the diaphragm, having none, cannot reach consciousness as an independent entity.

Effect of the Oscillating Bed and Tilt Table on Calcium, Phosphorus and Nitrogen Metabolism in Paraplegia.

Derek M. Wyse and C. J. Pattee, AM. J. MED., XVII:645-661, November 1954.

Two outstanding problems in the treatment of paraplegia are the development of disuse osteoporosis and the presence of large amounts of calcium in the urine. Since these metabolic disturbances play a significant part in the morbidity and sometimes in the mortality rates of paraplegic patients, a practical procedure to alter these metabolic disturbances is studied.

Since ambulation appears to be the key to restoration to normal of many metabolic and physiologic abnormalities following immobilization, the aim of this study was to attempt certain procedures which would imitate ambulation while the patient was still bedridden. It was hoped that in this manner the disuse osteoporosis and resultant hypercalcinuria could be prevented or at least ameliorated.

The rationale of this procedure was that ambulation creates certain ill defined "stresses and strains" on the immobilized bones which would otherwise be lacking; it was postulated that one or more of these mechanisms might be involved: (1) weight-bearing through the long bones of the extremities; (2) pulls and stresses on muscular attachment to bone by muscle contractions; (3) circulatory changes in the lower extremities. Any one or combination of these factors might play a role in stimulating normal osteoblastic activity. Since muscle pull is absent in flaccid paralysis, attention was focused on the other mechanism.

The Sanders oscillating bed and the tilt table were used. The oscillating bed was in motion for eight hours a day. It was set to travel from the horizontal position to 21 degrees below the horizontal plane, a complete cycle taking 1 minute and 20 seconds. When using the tilt table the patients were started with five minutes in the upright position twice a day, gradually building up the length of time on the table, until they reached the maximum of 1 hour and 50 minutes per day. The planned length of study was 48 days, divided into 3 periods. First there was a control period of 12 days, followed by a 12-day period on the oscillating bed, and finally a period of 24 days on the tilt table. This schedule was followed more or less by 5 patients with the following results:

1. Calcium balance studies and roentgenographs failed to demonstrate any significant osteoporosis or hypercalciuria. The oscilating bed is of value in restoring the vasomotor tone of paralyzed extremities to normal.
2. Direct weight-bearing through the lower extremities by means of the tilt table does not appear to be of value in affecting the calcium, phosphorus, and nitrogen metabolism of the paraplegic patients.
3. It is postulated that the "stresses and strains" on bone might result primarily from muscular contractions rather than weight-bearing or circulatory changes.

Criteria for the Feasibility of Rehabilitation in the Geriatric Patient.

Edward J. Lorenze, J. A. GER. SOC., 2:739-745, November 1954.

The definition of rehabilitation does not limit it to any particular disease process, therapeutic technic or age group. This paper, however, is concerned with the specific problems of the rehabilitation of geriatric patients. The conditions discussed stress essentially the same physical factors for all types of neuromuscular skeletal disabilities. The criteria for rehabilitation in these cases involve an evaluation of the functional status of the patient and must include an appraisal of social, psychologic, and vocational factors.

Intellectual capacity, emotional stability, motivation, and acceptance of the disability are all ingredients of the initial rehabilitation evaluation. The social setting of the patient prior to his incapacity, and his needs following it, will affect his peripheral vascular disease, and neurological status are factors to be evaluated before the objectives of treatment are set. Hemiplegia, fracture of the hip, and arthritis of the lower extremities are conditions commonly found in the aged which critically limit ambulation. These are incompatible with particular activities of daily living. If such conditions are found, then rehabilitation in terms of these particular activities is not feasible unless the condition can be improved by treatment. All these factors should be considered in determining the prognosis.

Resuscitation and other Uses of Artificial Respiration.

James L. Whittenberger, NEW ENGLAND J. OF MED., 251:775-779, November 4, 1954; 816-820, November 11, 1954.

Recent progress in methods of artificial respiration has been catalyzed by several factors: the growth of thoracic surgery, increasing numbers of poliomyelitic patients with respiratory paralysis and the need for more adequate methods to use in the event of nerve-gas poisoning. In this paper major emphasis is on advances in knowledge of the physiologic characteristics of the lungs, the bearing of these characteristics on the action of methods of artificial respiration and the effects of the various methods on circulation and respiration.

The disturbances in function of the circulatory and respiratory systems during asphyxia are first discussed. The mechanical behavior of the lungs and thorax in relation to artificial respiration, ventilation control during artificial respiration, and safe levels of intrapulmonary pressure are reviewed prior to the discussion of the various methods of artificial respiration.

The methods described include the manual methods of artificial respiration, gravity methods, pressure-breathing devices, body and cuirass respirators and resuscitators. The effects of each of these on respiration and circulation substantiate the advantages and disadvantages of some methods.

In conclusion the author emphasizes the importance of establishing criteria of alveolor ventilation rates rather than depending on pressure measurements in the airway or in a tank respirator. Manual methods with an active inspiratory phase are much superior to those with only an active expiratory phase. Cuirasses that enclose the chest and abdomen and methods that rock the body are less effective than other mechanical respirators but are very valuable for special purposes such as use during convalescence from respiratory poliomyelitis. The respiratory effects of artificial respiration do not appear to be materially different from those of naturally induced respiratory movements. As in all forms of external respiration, an effective active inspiratory phase appears to be of prime importance.

This is an excellent review of the mechanics of respiration in relation to all methods of artificial respiration.

Motorized Intermittent Traction for Treatment of Herniated Cervical Disc.

H. A. Shenkin, J.A.M.A., 156:1067-1070, November 13, 1954.

A series of 27 patients suffering with pain in the neck and upper extremity as a result of disturbances of the cervical spine causing root compression were treated with a new form of cervical traction apparatus. These patients, before the new device was used, were all candidates for surgical intervention. A principal feature found in the majority of these cases was straightening of the cervical lordotic curve. This disturbance of the posture of the cervical spine could be a cause of root compression even in the absence of disc herniation.

These patients were placed in the motorized intermittent traction apparatus after conservative treatment had failed. This new piece of equipment permits a force of up to 50 pounds to be applied to the patient without unreasonable distress. It is a motor-driven mechanism with a revolving cam; it places the desired pull on a head halter for a period of 5 seconds and then releases the traction for 5 seconds. The cyclical traction is maintained for one hour after which the patient rests for 15 minutes. The subjects in this series used it for 12 to 14 hours daily for 4 to 5 days. Sixteen of these patients recovered and 6 more were satisfactorily improved. The remaining 5 required surgical procedures for relief of pain.

Measures That Have Proved Helpful in Backache.

Frederick J. Kottke, J.A.M.A., 156: 808-810, October 30, 1954.

Relief of low back pain caused by changes of or damage to the connective tissues of the back depends on an understanding of the physiological mechanisms involved. Any irritation or trauma of the ligaments, fascia, muscles or synovia in this area initiates a reflex response of the muscles in the form of "splinting," in an attempt to mobilize the back.

There is often difficulty in locating the exact site of injury since pain may be diffuse over the whole back and referred to the lower extremities. Even splinting of a few hours duration will set up a secondary reflex response which only aggravates the initial symptoms. A proper evaluation of the initial injury cannot be made until the splinting is relieved. Treatment, therefore, is aimed initially at support of the injured part and relief of secondary effects.

Protection of the injured area can be obtained by putting the patient to bed in traction. For less severe cases adhesive taping may provide adequate support during the first stages of healing. Heat is recommended as an analgesic because of its demonstrated use in decreasing sensitivity to pain and abetting relaxation of the splinted muscles. Massage is used routinely for its observed physiologic effects. Cases with true trigger points of injury may be helped by infiltration of the area with 1 per cent procaine hydrochloride. To maintain mobility, the muscles of the back and hips should be stretched to their full resting length once or twice daily. Manipulation may be employed in selected cases of sacroiliac strain. It is important, however, to prescribe exercises to meet the individual needs of each patient.

Quantitative Observations on Skeletal Muscle Undergoing Denervation Atrophy.

G. K. Branes, D. V. Shaffer, K. G. Wakim, G. P. Sayre, and F. H. Krusen, ARCH. PHYS. MED. AND REHAB., 35:689-694, November 1954.

The reduction of weight of muscle and the histological changes which occur after denervation of skeletal muscles was quantitatively studied in 100 adult albino rats.

The loss of weight was negligible for the first three days following nerve section. A curvilinear positive regression of weight was found as the time after denervation progressed. At the end of 40 days an individual average reduction of weight of approximately 75 per cent was recorded. As early as the first postoperative day an average increase of 3 per cent in the number of muscle fibers per unit area was observed and this percentage increased with the length of time after denervation. When the gastrocnemius muscle had undergone denervation atrophy for 40 days, a 41 percent reduction in the diameter of the individual muscle fibers was demonstrated. An analysis of the changes in the number of nuclei showed that these changes were less constant than the alterations in diameter and in number of muscle fibers per unit area. While definite trends were observed, this study was unable to establish any linear relationship of proliferating nuclei with time after denervation.

A Critical Analysis of the Fracture Problem.

Charles N. Pease, J.A.M.A., 156:805-807, October 30, 1954.

The need for a renewed analysis of the current trends in fracture treatment arises with the annual increase in the incidence of fractures due to our industrialized and sports-conscious society. Despite the numerous advances orthopedic surgery has made in the use of various types of internal splinting devices including pins, screws, and plates, the most desirable method of treatment is the closed reduction. It requires a consummate knowledge of anatomy, kinesiology, physiology, and basic engineering principles to effect a closed reduction. Only a limited amount of skill is required to perform an open reduction where the bony fragments may be in plain view. The latter procedure also subjects the patient to further trauma of the soft tissues, embarrassment of the repair processes and opens the way for infection despite the use of antibiotics.

Healing processes could be enhanced considerably if diets high in ascorbic acid, minerals, and other essential elements would be prescribed. The author does not feel that physical therapy measures other than active exercise play any appreciable role in restoration of function. Physicians must exert caution in treating the patient, keeping the functional end in view and not the perfect anatomic alignment as pictured on roentgenograms.

Adoption of sound and acceptable orthopedic concepts is necessary if the rational management of fractures is to make headway. This can be facilitated by basic changes in the undergraduate and postgraduate instruction in orthopedic surgery. Orthopedic groups have an obligation to teach nonspecialists the importance of instituting orthopedic programs to meet their needs in that both groups may work toward the common goal of improved fracture treatment.

Low Thoracic-High Lumbar Sympathectomy for Vascular Diseases of the Legs.

R. P. Hohf, William S. Dye, J. H. Olwin, and O. C. Julian, J.A.M.A., 156:1238-1240, November 27, 1954.

This study showed that there was no essential difference between the low thoracic-high lumbar sympathectomy and the usual lumbar sympathectomy in the treatment of vascular diseases of the lower extremities. In 29 patients in whom ganglions T-12 through L-3 were removed the improvement paralleled that of patients in whom ganglions L-2 and L-3 were excised. The patients were adjudged improved on the basis of skin temperature, walking distance, healing of ulcers, and their own subjective opinions. The higher sympathectomy is not recommended.

There is one situation in which the higher sympathectomy may have a possible advantage and that is in permitting more distal amputations. The high sympathectomy permitted below-knee amputations in 7 out of 9 cases compared to 1 out of 8 cases in the regular series. It is suggested that future efforts to improve the results of sympathectomy should be directed toward interrupting the accessory pathways along the trunk.

Effect of Group Activity on Psychogenic Manifestations of Older People.

Jerome Kaplan, GERIATRICS, 9:537-539, November, 1954.

Many persons who have retired either on a voluntary or a compulsory basis, appear to deteriorate rapidly in social consciousness, physical appearance, and emotional stability. This is probably due to the fact that they have a lack of meaning in their everyday life. It is well illustrated here that many older people have staved off such deterioration and possible commitment to a mental institution because of the stimulation provided through senior adult clubs or other types of group living.

Need for medical assistance, somatic complaints, and developing personality aberrations have been halted as a direct result of well planned educational and recreational programs. However, the need for emotional gratification through a group is not resolved spontaneously. The group can only lessen the chasm between the desire to belong and the opportunity to belong. This empirical study does present evidence that senescence may be controlled in some instances by providing an outlet in which older people can meet their own needs in their own way.

Myasthenia Gravis. An Electromyographic Investigation.

Arne Lundervold, ACTA PSYCHIATRICA ET NEUROLOGICA SCANDINAVICA, XXIX:151-159, 1954.

In 1895 Jolly found that a myasthenic reaction could be produced by electrical stimulation of the motor points of the muscles. This led to the belief that myasthenia gravis is a peripheral involvement. Again, in 1935 Walker discovered the striking effect of prostigmin which further confirmed this view. Observations and discussions have continued. Some of these have pointed to an additional pathogenic factor in the central nervous system.

Many electromyographic investigations have been made. There appears to be some discrepancy in the results obtained. This fact has prompted the electromyographic investigations reported in this paper. Seventeen myasthenia gravis patients, some of whom were very severely involved, were examined electromyographically through fatigue experiments in various forms.

The most usual findings were not changes in individual motor unit potentials, but in their mutual relation to each other. Individual action potentials did not show any changes in appearance. Different action potentials suddenly disappeared with fatigue without having changed their character. Those with which the contraction began persisted longest. This same observation has been made in healthy subjects during fatigue experiments. This can hardly be explained as an involvement of the neuromuscular system alone. There would be more distinct changes in the appearance of the action potential, or the motor unit potentials which had been longest in activity would be the first to become exhausted. Therefore it is probable that in myasthenia gravis there is also an involvement of the normal fatigue mechanism and possibly also of other synapses than the neuromuscular. This paper is illustrated by several electromyographic records.

Control of Two Simultaneous Voluntary Motor Acts in Normals and in Parkinsonism.

Robert S. Schwab, Morris E. Chafetz and Sylvia Walker, A.M.A. ARCH. NEUROL. AND PSYCHIAT., 72:591-598, November 1954.

The therapeutic approach to Parkinsonism has been difficult because of the multiple and varied aspects of the disease. Most efforts have been directed toward symptomatic control of rigidity and tremor. However, a common complaint of the Parkinsonian patient is one of fatigue and slowness in performing the chores of ordinary life. This has been attributed to the interference caused by muscle rigidity and tremor. In the observation of several Parkinsonian patients by the authors, it became apparent that another motor impairment beside tremor and rigidity was present. This symptom complex they describe as the inability to maintain at the same time two voluntary motor activities.

A quantitative test of this function was established. First, a single voluntary bulb ergogram of the nondominant hand was obtained. Then, an ergogram of the nondominant hand while the dominant hand performed another motor act was obtained. The two ergographic curves were then compared, and the amount of combined motor activity lost was measured quantitatively. The tests were timed and scored as to amplitude maintenance, gap formation, and speed of performance.

In some patients the single ergographic test was performed with relative ease and satisfaction. Then when the second motor act was instituted, the ergographic response would yield a gap and an erratic amplitude. The test was performed more slowly. In many cases the tests were produced only by consecutive movements; i.e., the patient would draw one line, then squeeze, then draw, and this resulted in a pattern with six gaps and was the most striking result. The tests sometimes caused the patient to show frustration associated with increased tremor, flushing, and perspiration. In some patients, minimal or no tremor and very little rigidity were present, and yet they produced combined tests which were very poor. In some cases the successful effect of drugs on the tremors and rigidity failed to improve the combined test difficulty. In other patients the combined tests showed such a sufficient degree of improvement that they were considered normal. As a group the

Parkinsonian patients performed the combined tests with difficulty associated with slowness, disturbed amplitude, and gap formation.

Patients have various ways of dealing with this difficulty. Some patients try harder and harder to perform as a normal, each time resulting in conspicuous failure leading to increased frustration. Other patients learn to accomplish tasks by approaching them in a consecutive manner which leads to excessively ritualistic and overdeliberate reaction patterns suggestive of obsessive-compulsive personalities.

It has been suggested that the word "synkinesia" describes the normal function discussed, and "asynkinesia" the deficit common to Parkinson's disease. This should be an interesting paper to physical therapists in planning treatment programs for patients with Parkinson's disease.

Postoperative Management of Patients with Lower Extremity Amputations.

R. C. Psaki, P. R. Strobel, and J. J. Keys, J.A.M.A., 156:1070-1076, November 13, 1954.

This article is a review of all phases of the postoperative management of the lower extremity amputee. After the loss of a limb, the threat to the security of the individual presents a problem that is both physical and psychological. An amputee cannot be totally rehabilitated until he understands the acceptance of the loss of a limb. In physical medicine this acceptance implies that the patient is accepted by the physician and therapist without prejudgement and that the attitudes of the patient are accepted in the light of his needs and background. Acceptance is usually applied to three aspects of the patient's rehabilitation: physical, social, and psychological. Physical acceptance implies that the patient is aware of the nature of the disability and understands its origin, complications, limitations, and prognosis. Social acceptance implies that the patient is ready to move realistically toward home, family, and society. Psychological acceptance implies that the patient's emotional climate, with reference to his disability, has been equalized by his feelings of acceptance and adequacy and by his recognition of a value standard that is equal to the noninjured.

The preprosthetic phase of the treatment consists of an all-over rehabilitation program that begins at the bedside as soon after surgery as feasible. The article continues with a discussion of the construction, fitting, and alignment of lower extremity prostheses. The types reviewed include the below-knee, conventional above-knee, suction-socket above-knee, femoral end-bearing prostheses and prostheses for patients with amputations about the hip. When the prosthesis has been properly fitted, the patient progresses through various stages of a gait training program until an amputee clinic team judges him to be proficient with the use of the limb.

Breathing Exercises for Bronchial Asthma and Pulmonary Emphysema.

S. Malvern Dorinson, J.A.M.A., 156: 931-933, November 6, 1954.

During an asthmatic attack the bronchioles become narrowed by spasm or congestion so that a valvular action occurs whereby air may be drawn into the lungs by strong inspiration but cannot escape. Gradually the lungs become overdistended and a condition of insufficient gaseous exchange follows. The patient has the mistaken idea that his trouble is in getting air in and he therefore struggles to inhale when his lungs are already full. The problem here is to deflate the lungs after which inspiration will be easy. Shortening of the muscles of respiration, barrel chest and dorsal kyphosis are deformities associated with this kind of pulmonary cripple. Abnormalities of breathing often seen in dyspneic patients involve a neglect of use of the diaphragm, and the lateral movements of the lower ribs and instead an expenditure of effort on upper costal respiration. Some patients actually relax the diaphragm so that it rises during inspiration. This results in merely transferring air from the lower to upper lobes with a serious reduction in tidal air.

The objectives of treating patients by exercise are to restore lung and chest cavity to normal size, to prevent deformity, to increase tidal air volume, and to teach proper breathing habits. The author describes a series of the most commonly used breathing exercises. Patients should master the simple before trying the complex. The exercises should be done twice daily and at first sign of an impending attack. One other benefit to patients is that they gain confidence in themselves and lose some of their fear of an attack.

Osteopetrosis.

Charles L. Steinberg, J. LANCET, 74: 437-438, November 1954.

Osteopetrosis is a relatively rare condition in which normal bony structure becomes thickened and sclerotic because of an increase in the number of size of the trabeculae and excessive calcarious deposit. It appears to be a familial condition and is found in both children and adults. The pathological changes of osteopetrosis begin in the metaphysis. Because of a paucity of osteoblasts only a thin layer of osteoid bone is applied and the bone cuts and breaks like chalk. There is a narrowing of the medullary canal in involved bones and, depending upon the extent of involvement, varying degrees of anemia will be present. Pain is usually absent and a limited range of motion is not pronounced. Diagnosis depends on roentgen manifestations. The osteosclerosis associated with the disease may cause nerve pressure and loss of function. Optic atrophy and deafness may result from this sclerotic process as well as dwarfism due to encroachment on the pituitary.

The author presents a rather complete case history in this article. No form of therapy has proven beneficial.

Book Reviews . . . . .

Community Health Action. A Study of Community Contact. *By Paul A. Miller, director of the research project from which this book resulted, conducted at Michigan State College. Served on the 1952 rural health panel appointed by the President's Commission on the Health Needs of the Nation. With the assistance of J. Allan Beegle, Duane L. Gibson, Charles R. Hoffer, Charles P. Loomis, Christopher Sower, and David G. Steinicke. Cloth. Price $3.00. Pp. 192. Illus. Michigan State College Press, Michigan, 1953.*

During the past decade, communities have shown increasing concern with matters of health and medical care. In many instances this interest has been translated into action resulting in the acquisition of important health facilities. This volume presents the results of a study of the mechanics of this process in selected small communities. The author directed this project which was initiated in 1949 and carried out within the Social Research Service of the Michigan State College.

In order to make the study of manageable proportions, three areas of important health needs were selected for investigation: (1) hospital facilities, (2) public health services and (3) cooperative prepayment plans for medical care. Information was obtained by questionnaire from 218 communities concerning hospital facilities, from 51 communities with regard to health departments, and from 18 communities with regard to prepayment plans. In addition to obtaining this over-all picture, detailed field inquiries of 5 facilities were carried out.

For each type of health need, the report presents a community case history, consisting of the stages through which the development of the community project passes. There is first of all an awareness of the need for the health facility. It was then necessary to have the project sponsored, organized, financed, and sold to the community by means of public relations technics. In contrasting the development of community action for these different health needs, several interesting observations were made. An important finding concerned the occupational positions of the community leaders. A majority of the leaders for the hospital projects were businessmen or executives while professional persons and housewives were credited for acquiring the health department. Farmers and farm organizations enjoyed relatively greater participation in the prepayment plans.

The most interesting observation resulting from the field work was that the general social and political milieu of the community had a significant influence on the choice of the paths that led from the initiation to the completion of the community project. Although this is well known to most experienced health workers, it is essential that this point be constantly reemphasized. This philosophy is presented in this volume by the simple means of actual reports of observations made in the field. For this alone, this report should be required reading for all those engaged in and for those entering the profession of public health.

Textbook of Physiology. The Activities of the Living Body. *By Caroline E. Stackpole, A.M., formerly Associate in Biology, Teachers College, Columbia University; and Lutie Clemson Leavell, A.M., M.S., Associate Professor in Nursing Education, Teachers College, Columbia University. Cloth; price $5.00. Pp. 418; illus. 128. The Macmillan Co., New York, 1953.*

These two authors have worked together before, producing: 1. *Laboratory Manual in Anatomy and Physiology*, second edition, 1948, Macmillan; 2. they revised, *Textbook in Anatomy and Physiology*, by Kimber and Gray, 1948, Macmillan; 3. and Stackpole with Caroline Gray produced a *Study Guide Test Book in Anatomy and Physiology*, fifth edition, 1945, Macmillan. They have many years experience in teaching physiology and functional anatomy to professional groups.

The material is organized in chapters around the fundamental problems of basic physiology. Emphasis is on the response and adjustment of the whole individual to the problems of daily living even though each chapter is devoted particularly to the different systems of the body. The authors have successfully integrated the areas of "physiology, functional anatomy, physiological histology, chemistry and physics." Principles of psychology and sociology are related to the individual as his reaction to his environment affects his physiological function.

The writing style is clear and explanatory. Their selection of material and orderly presentation shows effective teaching experience. The format is interesting with variation in print type a relief. Outlines and illustrations are very effective in maintaining interest and clarifying material. Most references are made from recently published books.

This textbook should be investigated as a possible course text in basic physiology and as an excellent addition to an already established library as a source book. I believe physical therapists would enjoy this text for its "live" feeling due to its up-to-date information and integrative approach.

Diseases of the Knee: Management in Medicine and Surgery. *By Anthony F. DePalma, M.D., James Edward Professor of Orthopedic Surgery and Head of the Department, Jefferson Medical College, Philadelphia; Attending Orthopedic Surgeon, Jefferson Medical College Hospital, Philadelphia; Attending Orthopedic Surgeon, Methodist Episcopal Hospital, Philadelphia; Chief Orthopedic Surgeon (Rotating), Philadelphia General Hospital; Consultant Orthopedic Surgeon, New Jersey Orthopedic Hospital; Consultant Orthopedic Surgeon, Veterans Hospital, Philadelphia. 1st Edition. Cloth; price $20.00. Pp. 840; Illus. J. B. Lippincott, Philadelphia, 1954.*

The author indicates that he has written this book for the orthopedic surgeon, the general surgeon, the general practitioner, and the student. He has drawn selectively from the available literature and from his personal experiences in World War II—as we are frequently reminded in the text—to produce this book dealing with all problems of the knee and related structures.

There are 14 chapters, together with an extensive bibliographic as well as subject index. The first four chapters consist of a discussion of the evolution, comparative anatomy, normal anatomy, and mechanics of the knee joint. The following seven chapters are concerned with affectations of the menisci, disorders of the

extensor apparatus of the joint, congenital and acquired deformities, traumatic lesions of the ligaments, fractures and wounds, loose bodies, and affectations of the synovialis and bursae of the knee joint. The remaining three chapters are devoted to the arthritides, surgical approaches and procedures, and finally bone neoplasms in the region of the knee joint. The book is profusely illustrated with excellent photographs, X-ray reproductions and line drawings, all of which supplement the text well. The type is large and in double column with paragraph subheadings, which permit comfortable reading or selective scanning of topics.

This reviewer was gratified to note the emphasis which the author placed on the development and maintenance of a satisfactory quadriceps apparatus. This is stressed throughout the book and should serve to remind readers that failure to recognize a quadriceps deficiency may well eradicate the value of treatment—surgical or medical—of diseases of the knee. A portion of the chapter concerned with disorders of the extensor apparatus deals with physical properties of muscle and exercise principles. A technic for the administration of progressive resistive exercises was outlined in what this reviewer feels was a confusing manner, especially for those who may not be completely familiar with this system of quadriceps development. It is also unfortunate that despite the repeated emphasis placed on straight leg raising as a quadriceps exercise, and the description of a technic of the author's for practising this exercise in bed, the last illustration in the chapter depicts the "pseudo-straight leg raising" which so many patients perform when not under adequate supervision. Straight leg raising exercises are of value only when done with complete extension at the knee. While considerable detail was placed on the above noted methods of rehabilitation, only passing consideration was given to other, and in many instances equally as valuable, technics such as specialized occupational therapy methods.

Despite these points, the book is well written and is a valuable contribution concerning a valuable joint. There are excellent classifications of loose bodies about the knee and of the arthritides. The chapters concerned with affectations of the menisci and traumatic lesions of the ligaments are very well presented and equally informative. While this book in its entirety is not recommended for physical therapists, the sections noted should be of material aid in developing a better understanding of the complex problems of knee injuries.

Student Personnel Services in Higher Education. *By Dugald S. Arbuckle, Director, Student Personnel, School of Education, Boston University, Boston Mass. Cloth; price $4.75; Pp. 352. McGraw-Hill, New York, 1954.*

Mr. Arbuckle, in this book, brings his wide experience in personnel services to the readers in an interesting and clearly written fashion. Within the book are opinions of the author gained through practical experience working with students as well as reference to much of the previously written literature on this subject.

The emphasis, on all services described, is directly related to the student point of view, his needs and how to meet them through the school experience. The reader will be made aware of many sound principles of accepted guidance and counseling procedures and as such should be able to refer them, not only to students, but to others contacted.

Implications for physical therapists are found particularly in the following chapters:

The chapter on "Selection of Students to Colleges and Universities" has much of interest for those responsible for the selection of students as potential physical therapists, in that it describes how admission policies are determined and why these policies are important, what are some of the factors influencing recruitment and admission of students, and suggested criteria for selection and admission.

Chapter IV "Student Orientation" itemizes the values for the student in proper orientation to his situation and gives examples of how this orientation is best obtained for the student through the classroom experience in all of its phases of activity. Characteristics of leader direction for the student are given in form of procedures for the leader-centered method versus the student-centered method.

The chapter titled "Teaching in Institutions of Higher Learning" will be of interest for any instructor or supervisor of students. Here Mr. Arbuckle describes teaching from the personnel point of view. He lists items for consideration by teachers as to the creation of proper classroom atmosphere, the importance of the understanding of objectives by both teacher and student, interaction between groups, and what attributes a teacher should possess.

Chapter VI "Counseling" explains the status of counseling of students at the present time. Herein is listed terminology of counseling, hints for becoming a good counselor, and an explanation of the philosophy of client-centered counseling.

In the appendix many forms are shown which can be used for abstracting and compiling student data. The reader, with some revisions and adaptations, could glean many ideas for record forms in individual situations.

Pediatrics and Pediatric Nursing. *By Albert G. Mitchell. Revised by Robert A. Lynn, M.D., Associate Professor of Pediatrics, University of Cincinnati, Ohio, and Elgie M. Wallinger, R.N., B.S., M.A., Director of Nursing, Columbus Children's Hospital, Ohio. 4th Edition. Cloth. Price $4.50. Pp. 547; Illus. W. B. Saunders, Philadelphia, 1954.*

In reviewing this book for use by the physical therapist, I find that the manner and style in which it is arranged lends itself well for reference. The book is arranged in six units. At the end of the first five units there is a list of references many of which, however, are not current. In the appendix we find tables showing approximate normals for blood chemistry, blood count, sedimentation rate, spinal fluid, and urine.

There are many very good illustrative pictures which show symptoms of childhood diseases and conditions such as:

1. Rickets
2. Cretinism
3. Pituitary dwarfism
4. Single and double harelip
5. Clubbing and cyanosis of fingers in congenital cardiac disease
6. Rheumatic nodules at the elbow
7. Achondroplasia in twins
8. Tuberculous dactylitis in an infant
9. Multiple birthmarks of pigmented type
10. Menigocele at lower end of spine and at back of neck
11. Microcephalic idiocy

12. Skin manifestations in communicable diseases

The book also contains several tables or summaries which are excellent for reference material because of the concise form in which this material is presented. Some of these tables that would be of interest to the physical therapist are as follows:

1. Abnormalities of nutrition
2. Cough—causes and remarks
3. Abnormalities of urine—causes
4. Convulsions—causes and remarks
5. Abnormal reflexes
6. Changes in cerebralspinal fluid in various diseases
7. Quarantine rules for contagious diseases
8. Important features of communicable diseases

The chapters which deal with growth and development, mental hygiene, physical hygiene and discipline contain information which would be of value to the student of physical therapy in learning to work with children. However, some of the material in this book has been so greatly condensed it might be misleading or misinterpreted by the inexperienced student. For example, in the chapter on Communicable Diseases we find the following statements: "The application of technique requires the use of masks, gown, antiseptic solutions, soap and running water," and "Before entering a contaminated unit area the individual is usually required to put on a clean mask made with several thickness of fine gauze." The question of use of masks is still a controversial question. Many institutions do not require the use of masks except under certain conditions.

I would not recommend this book as a text for the physical therapist, but I do believe it would be of value as a reference book.

The Deaf and Their Problems. A Study in Special Education. *By Kenneth W. Hodgson, M.A. Prefaced by Sir Richard Paget. Cloth; price $6.00. Pp. 364. Philosophical Library, New York, and Richard Clay Co. Ltd., Bungay, Suffolk, 1954.*

In an exceptionally well written reference book, this famous teacher of the deaf traces the development of the education of the hard of hearing. The author does not state his views on the current controversy between oral and manual methods, but rather describes the evolution, successes, and failures of each. The many social problems, both past and present, are discussed, and questions posed which may well act as guideposts for their future solution.

Format and type are good. It is regrettable that a bibliography was not included, as the student will find this to be an invaluable reference book.

Although only the handicap of deafness is included, the perspective of all who deal with any type of disability will be broadened by the reading of this fine contribution to the literature on people with handicaps.

A Hospital In-Service Educational Training Program. A Study in Adult Education. Report of the Program at Veterans Administration Hospital of Indianapolis, Indiana. *By Russell E. Vance Jr., Field Consultant and Instructor in Adult Education. Paper; Pp. 102. Community Services in Adult Education, Bloomington, Indiana, 1953.*

Mr. Vance is a field consultant and instructor in adult education. He observed and reported an in-service training program conducted at the Veterans Administration Hospital of Indianapolis. It involved the nursing service of that hospital. The period reported is from October 1952 to June 1953. This reviewer knows nothing of the qualifications of the author and no mention is made as to whether he is a VA consultant or whether he is an instructor in adult education through Indiana and/or Purdue University. There are no indications as to where the material was compiled but it is a mimeographed and paper-backed book of 102 pages.

This is supposed to be the beginning of a long research project with the aim to provide material for hospital administrators and nursing educators to use in stimulating in-service training more extensively. In-service training, specifically, means growth within the particular group. There are two aspects to the growth, one is technical skill and the other is social skill, i.e., learning how to do the job better together. This reviewer in her experience finds the latter on the whole the least developed of the two qualities. Technical skill seems to reach fairly acceptable standards in due time. The skill of nurse and aide to do the job harmoniously is a less tangible factor with which to work. Mr. Vance shows in this study that attempts were made to draw the various workers in the nursing service closer together in the common purpose of patient care. There were obvious weaknesses in the program. For one thing the lectures and technical subjects were oftentimes geared to nursing level which the aides did not understand. Attempts were made to have a round table, an informal atmosphere which would draw out the less aggressive workers. To some extent this was successful.

The reviewer has had some experience in both inservice and workshop type gatherings and feels strongly that for greatest success the fledgling groups need leaders who have some skill and experience in guiding such programs. Otherwise there is danger in the program lapsing into just talk, gripes, and rehashing. Participation of *all* is of utmost importance or it might become a captive audience attending monologues.

I must admit that Mr. Vance's report is far from fascinating. Either he cannot make it come to life on paper or in fact the inservice training program itself did not come to life. A dry report at best. This reviewer believes the author made faithful reports of what he saw and heard to the best of his ability. There are no illustrations, plates, etc., except one diagram indicating inter-relationships of the services of a hospital. As to type of book, it could be used as reference material but I doubt from this report, that it would give much help to new and inexperienced groups. It makes more sense to those who have been through the mill. The idea of workshops and inservice training is excellent and the Veterans Administration is no amateur at encouraging such activities. However, the results are directly related to how effectively the mental resources can be stimulated in the whole body by the leaders. Further, how unobtrusively the leaders can arouse the interest of the members into coping with their problems collectively.

The reviews here published have been prepared by competent authorities and do not represent the opinions of the American Physical Therapy Association.

For Our Book Reviewers for March turn to page 164.

Chapter Directory

Alabama

President, Mary G. Redden, 117 Crenshaw St., Montgomery
Secretary, Lonis C. Ballard, Box 31, Tuskegee Institute

Arizona

President, Janet Campbell, 1434 N. Second St., Phoenix
Secretary, Gladys Dutton, Dept. of P.M. & R., Memorial Hosp., 1200 So. 5 Ave., Phoenix

Arkansas

President, Ewing R. Guthrie, 318 N. Spruce, Little Rock
Secretary, Mike Kumpuris, Jr., Rt. 9, Box 238, Little Rock

California

Northern California:
President, Robert A. Teckemeyer, 837 5th St., Santa Rosa
Corr. Secretary, Irene Gilbert, 801 Monterey Blvd., San Francisco 12

Sacramento-Stockton District:
Chairman, George Cousens, 2617 W. Euclid Ave., Stockton

San Diego:
President, E. Janeane Beck, 5005 Westminster Terrace, San Diego
Secretary, Anna J. Janett, 205 Laurel St., Apt. 201, San Diego 1

San Joaquin Valley:
President, Elizabeth G. Meermans, 3446 Joyce Dr., Fresno 3
Secretary, Rachael Millard, 1306 No. Van Ness Ave., Fresno

Santa Barbara:
President, Korlena Evasovic, 2724 Verde Vista Dr., Santa Barbara
Secretary, E. Mildred Storrs, 151 N. Brent St., Ventura

Southern California:
President, Mrs. Eleanor Hansen, 2829 Sunset Pl., Los Angeles 5
Corr. Secretary, Mary Bennett, Sycamore Grove Apts., 232¼ South Ave. 50, Los Angeles 42

Colorado

President, Virginia Vickers, 1 So. Harrison, Denver
Secretary, Patricia Rogge, 830 Clermont, Denver

Connecticut

President, Mrs. Anne C. Maes, 201 Bishop St., New Haven 11
Secretary, Arlene Lenners, 247 Ellsworth Ave., New Haven

Delaware

President, Clara Hunter, Delaware Curative Workshop, 16th & Washington Sts., Wilmington
Secretary, Sara Donovan, 129 W. 34th St., Wilmington 21

District of Columbia

President, Major Brunetta K. Gillet, 1801 Clydesdale Pl., N.W., Apt. 714, Washington 9
Secretary, Capt. Edna Dillon, 9901st TSU SGO, P.T. Section, Walter Reed Army Hospital, Washington 12

Florida

President, Hazel Robertson, 300 Royal Palm Way, Palm Beach
Secretary, Elizabeth Graham, 300 Royal Palm Way, Palm Beach

Georgia

President, Mary Eleanor Stout, 1369 Benning Pl. N.E., Apt. 3, Atlanta 6
Secretary, Ann Hodges, 73 11th St. N.E., Atlanta 5

Idaho

Secretary, Anna Sweeley, 1719 N. 18 St., Boise

Illinois

President, Miriam J. Partridge, 809 S. Marshfield, Apt. 706, Chicago 12
Secretary, Nan Dickson, 5529 Blackstone Ave., Chicago

Downstate District:
Chairman, Floyd W. Spurgeon, 2912 So. 12th St., Springfield

Indiana

President, Ruth Ladue, 3050 Broadway, Indianapolis
Secretary, Marilyn Gibbin, 3526 Evergreen, Indianapolis

Central Indiana District:
Chairman, Ruth Ladue, 3050 Broadway, Indianapolis

Northern Indiana:
Chairman, Garland M. Smith, P.T. Dept., South Bend Clinic, 122-124 Lafayette Blvd., South Bend

Iowa

President, Leo J. Morrissey, 1016 34th St. N.E., Cedar Rapids
Secretary, Helen Reichart, 331 So. Johnson, Iowa City

Kansas

President, Mrs. Anna Lou Showalter, 1042 Ohio, Lawrence
Secretary, Mrs. Ruth G. Monteith, 3917 Cambridge, Kansas City 3

Kentucky

President, Melvin G. Carson II, 1606 Kentucky Ave., Louisville 13
Secretary, Donald E. Humberger, 1816 Deerwood Ave., Louisville 5

Louisiana

President, Mary J. Bacharach, 226 Highway Drive, Jefferson Parrish, New Orleans
Secretary, Sarah S. Rogers, School of Physical Therapy, Charity Hospital, New Orleans 12

Maine

President, Rowena A. Walden, Maine Gen. Hospital, Portland
Secretary, Edna Gould, 29 Main St., Freeport

Maryland

President, Miss Isadore Brown, 4940 Eastern Ave., Baltimore 24
Secretary, Mary McDowell, 1923 Taylor Ave., Baltimore 14

Massachusetts

President, Lelia Dwyer, Lemuel Shattuck Hosp., 170 Morton St., Jamaica Plain 30
Secretary, Margaret Heffernan, 46 Eliot St., Jamaica Plain 30

Western District:
Chairman, Nancy Maher, Baptist Hill Rd., R.F.D. #2, Palmer

Michigan

President, Mrs. Inez Peacock, 15032 Westbrook, Detroit 23
Secretary, Esther Hart, 437 W. Cambourne, Ferndale

Eastern District:
Chairman, Judith Blue, Convalescent Home, Farmington

Western District:
Chairman, Jane Thompson, Box 290, R. #2, Lansing 4

Minnesota

President, Glenn H. Bostrom, 3104 S. Holmes, Minneapolis
Secretary, Ruth Thvedt, 1220 Powderhorn Terrace, Minneapolis

Southern Minnesota:
President, Darrell D. Hunt, 1211-16 Ave., S. E., Rochester
Secretary, Thelma Ruddy, 903 2nd St., N.W., Rochester

Mississippi

President, Chester C. Thomas, 203 Locust St., Gulfport
Secretary, Carolyn McKewen, 319 So. Prentiss St., Jackson 3

Missouri

Eastern Missouri:
President, Evelyn Walter, V. A. Hospital, Jefferson Barracks 23
Secretary, Mary Potthoff, 3823 Flad Ave., St. Louis 10

Western Missouri:
President, Rebecca Bohon, 5531 Wabash, Kansas City
Secretary, Margaret Christiansen, 107 Ward Parkway, Kansas City 12

Montana

President, Mrs. Mary Jane Hahn, 749 Miles Ave., Billings
Secretary, Robert H. Nicol, 601 Alderson Ave., Billings

Nebraska

President, Lyle Emery, 6503 Madison St., Lincoln
Secretary, Lucille Greteman, 6016 Hickory St., Omaha 3

Nevada

President, Eva A. Martin, 7 Arcade, Medico-Dental Bldg., Reno
Secretary, Jane Reading, 1445 University Terrace, Reno

New Hampshire

President, Mary Bullock, R.F.D. #4, Concord
Secretary, Mrs. Lucia O. Ryan, Rt. #10, Penacook

New Jersey

President, Arthur Brown, 910 Madison Ave., Plainfield
Corr. Secretary, Thora Nordlund, 26 Ellington St., E. Orange

New Mexico

President, Ruth A. Bauer, Montezuma
Secretary, Lois C. Perrine, 1607 Solano Dr., N.E. Albuquerque

New York

President, Anthony J. DeRosa, Burke Foundation, White Plains
Corr. Secretary, Janet Singer, Albany Hospital, Albany

Greater New York District:
Chairman, William Murray, 202-35 Foothill Ave., Hollis-wood 23

Central New York District:
Chairman, Mrs. Thelma Kleinhans, Cerebral Palsy Clinic, Salt Springs Rd., Syracuse

Eastern New York District:
Chairman, Dorothy Page, Albany Hospital, C. P. Center, Albany 8

Western New York District:
Chairman, Mildred F. Heap, 2183 Main St., Buffalo 14

North Carolina

President, Celeste A. Hayden, 303 E. Whitaker Mill Rd., Raleigh
Secretary, Amy Campbell, V.A. Hospital, Fayetteville

North Dakota

President, Clarence O. Blecha, 1027 Lincoln Dr., Grand Forks
Secretary, Mrs. Sarah Z. Willert, 1027 Lincoln Dr., Grand Forks

Ohio

President, Mrs. Doris Hall, 1507 Robinwood Ave., Cincinnati 37
Secretary, George Brunner, 6711 Alpine Ave., Silverton 36

Central Ohio District:
Chairman, Bernard Strohm, 301 No. Kellner Ct., Apt. 5, Columbus

Northern Ohio District:
Chairman, Helen Stewart, 2636 Colchester Rd., Cleveland Heights 21

Southwestern Ohio District:
Chairman, Harriet Cryan, 1421 Ryland Ave., Cincinnati

West Central Ohio District:
Chairman, Esther Schrider, Gorman School, 156 Grant St., Dayton 4

Oklahoma

President, Audrey Chambless, 116¼ N. W. 24 St., Okla. City
Secretary, Dorothy Fugitt, Jr. League Children's Hosp. for Conv., 4900 So. Lewis Ave., Tulsa

Oregon

President, Elizabeth Fellows, 1084 S. W. Gaines St., Portland 1
Secretary, Marguerite DuRette, 2217 N. E. Multnomah, Portland 12

Southern Oregon District:
Chairman, Mrs. Gene V. Watkins, 2855 Pearl St., Eugene

Pennsylvania

President, Mary Elizabeth Kolb, D. T. Watson School, Leetsdale 1
Secretary, Bessie D. Johnson, 2 E. Mercer Ave., Havertown

Eastern Pennsylvania District:
Chairman, Dorothy E. Baethke, 327 W. 46 St., Phila.

Western Pennsylvania District:
Chairman, Miriam Jacobs, D. T. Watson School, Leetsdale

Puerto Rico

President, Blanca E. Class, Los Mirtos # 163, Hyde Park
Secretary, Mrs. Livia Sacarello, No. 2 — 20th St., Roosevelt Sta., Hato Rey

Rhode Island

President, Nancy B. DeWolfe, Providence Crippled Children & Adults of R. I. Inc., 24 Meeting St., Providence
Secretary, Hazel Grime, 26 Prairie Ave., Providence

South Carolina

President, Norvaile N. Newell, 1032 Brandon Ave., Columbia
Secretary, Mrs. Margaret G. Major, 1719 Roslyn Dr., Columbia

South Dakota

President, Lois Saxton, 2331 Evergreen Dr., Rapid City
Secretary, George Herrick, V.A. Hospital, Box 145, Ft. Meade

Tennessee

President, Junia E. Swanson, 3601 Deerwood, Memphis
Secretary, Leo W. Betzelberger, P.T. Department, Kennedy V.A. Hospital, Memphis

East Tennessee District:
Acting Chairman, Verna T. Fulkerson, Rt. #2, Jonesboro

Middle Tennessee District:
Chairman, Deborah Kinsman, 6132 Robin Hill Rd., Nashville 5

West Tennessee District:
Chairman, Junia Swanson, 3601 Deerwood, Memphis

Territory of Hawaii

President, Ronald Oba, 99-159 Waipao Pl., Aiea Heights, Oahu
Secretary, Frances Knowlton, 1547 Ala Wai Blvd., Honolulu

Texas

President, Mrs. Elizabeth Barkley, 7114 Schiller St., Houston
Secretary, Laura K. Smith, 1101 Adkins Rd., Houston

Central Texas District:
Chairman, Maj. Barbara M. Robertson, HQ MFSS, Brooke Army Medical Center, Ft. Sam Houston

North Texas District:
Chairman, Helen M. Kilbourne, Lucerne Apt. House, Penna. Ave., Ft. Worth

Southeastern Texas District:
Chairman, Mrs. Madell Frazier, Hotel Dieu Hospital, Beaumont

Utah

President, August G. Wiechmann, 1735 23rd St., Ogden
Secretary, Grant Gregerson, 2568 Redondo Ave., Salt Lake City

Vermont

President, Margaret B. Corbin, 505 North St., Burlington
Corr. Secretary, Mrs. Veronica Kelly, 72 Thibault Parkway, Burlington

Virginia

President, Ruth M. Latimer, 1207 Maywood Rd., Richmond 26
Secretary, Josephine T. Buca, 1207 Maywood Rd., Richmond 26

Washington

President, Mrs. Erma C. Myers, 4738-17 Ave. N. E., Seattle 5
Corr. Secretary, Suzanne Bemis, 4747 21st Ave., N.E., Seattle 5

Eastern Washington District:
Chairman, Emery C. Carper, W. 3618 Providence, Spokane 14

West Virginia

President, Mrs. Georgia Traub, Morris Memorial Hospital, Milton
Secretary, Alice Jones, 149 Olive St., Huntington

Wisconsin

President, Mrs. Alice Butler Berg, Rt. 1, Middleton
Secretary, Kathryn Shaffer, 925 High St., Apt. 1, Madison

Wyoming

President, Esther Gillette, Wyo. Dept. Public Health, State Office Bldg., Cheyenne
Secretary, Curtis Sales, Box 555, Sheridan

Our Book Reviewers for March

Frances A. Alterman, Chief, Physical Therapy, Veterans Administration Hospital, Oteen, North Carolina.

Catherine Fletcher, Director of Nursing Service, D. T. Watson Home for Crippled Children, Leetsdale, Pennsylvania.

Harriet E. Gillette, M.D., Consultant in Cerebral Palsy, Florida Crippled Children's Commission; Consultant, Cerebral Palsy and Physical Medicine, Georgia State Department Public Health, Crippled Children's Division; Consultant, Physical Medicine and Rehabilitation, Georgia State Department of Education, Atlanta.

Dorothy I. Glidden, Captain, WMSC, Brooke Army Hospital, San Antonio, Texas.

Dorothy A. Graves, Associate Professor, Department of Physical Therapy, University of Southern California, Los Angeles.

Abraham M. Lilienfeld, M.D., Chief, Department of Statistics and Epidemiology, Roswell Park Memorial Institute, Buffalo, New York.

Frederick E. Vultee, Captain, MC, USA, Physical Medicine Service, Walter Reed Army Hospital, Washington, D. C.

Classified WANT-ADS

POSITION: Physical therapist for new cerebral palsy center. If person has had sufficient experience, directorship will be open also. Apply to Mrs. Thomas Owen, Amarillo Cerebral Palsy Center, Amarillo, Texas.

PHYSICAL THERAPIST NEEDED for outpatient clinic in well equipped rehabilitation center. Excellent working conditions. Write H. L. Keats, Executive Director, Portland Rehabilitation Center, 1615 S. W. 14 Avenue, Portland 1, Oregon.

PHYSICAL THERAPIST—female. Full time in a Visiting Nurse Association in a University City. Must be skilled in management of children. Attractive salary. Car an asset. Visiting Nurse Association, 424 West Jefferson Street, Louisville 2, Kentucky.

QUALIFIED PHYSICAL THERAPIST needed for staff position in children's orthopedic hospital. State registration required. Good salary, maintenance optional; 15 days' vacation; 15 days' sick leave, 40-hour week. Contact Dr. W. L. Minear, Chief Surgeon, Carrie Tingley Hospital for Crippled Children, Truth or Consequences, New Mexico.

Position for OCCUPATIONAL THERAPISTS and SENIOR OCCUPATIONAL THERAPISTS with the State of Connecticut. Present openings at Undercliff Hospital, Meriden; Woodruff Center, New Haven, Connecticut; and Veterans' Hospital, Rocky Hill, Connecticut. Challenging shop programs, both male and female, therapy on rehabilitation wards and clinical training programs. Salary dependent on qualifications. Living accommodations. Liberal vacation, sick leave and retirement benefits. Excellent working conditions. Positions under civil service. Write or telephone the State Personnel Director, Room 405, State Office Building, Hartford, Connecticut, or the Medical Director, Commission on the Care and Treatment of Chronically Ill, Veterans' Hospital, Rocky Hill, Connecticut.

PHYSICAL THERAPIST—New, completely air-conditioned, 250-bed hospital. Modern physical therapy department. Excellent working conditions; 40-hour week, vacation, and sick leave. Male preferred; under 35 years. Write Personnel Manager, Ochsner Foundation Hospital, 1516 Jefferson Highway, New Orleans 21, Louisiana.

WANTED: QUALIFIED physical therapist for newly established poliomyelitis, respiratory, and rehabilitation center located in East Bay Area. Good starting salary, increase after 6 mos., 11 paid holidays and 2 weeks' vacation. Write Dr. Leon Lewis, Chief of Polio Service, Fairmont Hospital, 15400 Foothill Blvd., San Leandro, California.

FINE OPPORTUNITY for qualified physical therapist in well established rapidly growing community rehabilitation center. Write or call collect, Main 5623, 510 East Pearl St., Cincinnati 2, Ohio, Bryce W. Nichols, executive director.

QUALIFIED PHYSICAL THERAPIST needed for new children's orthopedic hospital opening March 1. Maintenance optional. Good salary; 40-hour week. Write to Eleanor Baird, Shriners Hospital, Lexington, Ky.

IMMEDIATE PLACEMENT for qualified therapists in 140-bed rehabilitation center of all age levels; treating postacute and convalescent polio; orthopedic, neuromuscular and musculoskeletal disorders. Good opportunity for initiative. Congenial working conditions with cooperative staff. Excellent facilities; therapeutic indoor and outdoor pools. P.T. and O.T. Clinical training center gives opportunity for teaching and supervision to those interested. Also, for Assistant Chief to help plan and build program for Graduate School Department medically supervised by American Board Physiatrist. Five-day week with paid vacation. Laundry furnished. Write: Medical Director, Dr. Odon F. von Werssowetz, Warm Springs Foundation, Gonzales, Texas.

Classified WANT-ADS

IMMEDIATE OPENING FOR PHYSICAL THERAPIST: 480-bed general hospital in northern Ohio. Address replies to Box 25, care of the Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

PHYSICAL THERAPIST WANTED IMMEDIATELY for 120-bed children's hospital. Apply: A. G. Dierks, Administrator, Le Bonheur Children's Hospital, Memphis, Tenn.

PHYSICAL THERAPIST NEEDED for general hospital. Excellent education and teaching facilities. Good salary. Write to Dr. Hilda B. Case, University Hospitals, 2065 Adelbert Road, Cleveland 6, Ohio.

WANTED: PHYSICAL THERAPIST for 300-bed G.M.S. hospital in Lexington, Kentucky. New and expanding department; 40-hour week, vacation and sick leave benefits. Good salary and working conditions. Apply Chief Physical Therapist, Lawrence E. Wheeler, St. Joseph Hospital, 544 West Second, Lexington, Kentucky.

PHYSICAL THERAPIST OPENING for new 468-bed teaching hospital and clinic. Five-day week; 3 weeks' vacation plus sick leave. Apply to Personnel Office, Univ. of Calif. Medical Center, 3rd and Parnassus Aves., San Francisco 22, Calif.

Classified WANT-ADS

RATES

The rate per insertion is 75c per line. Typewrite your advertisement carefully and count 50 characters and spaces per line.

ALL WANT-ADS MUST BE PAID FOR IN ADVANCE. Make checks or money orders payable to the American Physical Therapy Association.

Closing date for copy and cancellations is two months preceding publication date.

Institutions or physical therapists who do not wish their identity known may arrange for Blind Ad Code No. All such want-ads must include the following which will be counted as 2 lines:

Address replies to ..... care of The Physical Therapy Review, 1790 Broadway, New York 19, N. Y.

IMPORTANT

It is understood and agreed that the publisher shall have the right to reject or change the wording of any advertisement which in the opinion of the Editorial Board shall not be in agreement with the ethical standing of this publication.

Take Your Recruitment Story

into the living rooms of millions of Americans

through

television showings of our APTA sound film

"Within Your Hands"

You can effectively present the advantages of the physical therapy career to thousands of parents and students at each showing.

***Do your share* to insure nation-wide showings of our TV film this Spring**

A copy of the 14½-minute TV version can be obtained from your National Office for a preview or for a definitely scheduled showing — without charge.

Every APTA Member Can Help!

Ask your Recruitment Chairman for suggestions or write us for information on your area's TV stations and their coverage. Contact your stations . . . schedule showings . . . we'll supply films.

And don't forget that radio is an efficient medium for your recruitment material. Plan interviews, spot announcements, panel discussions and quiz and audience participation programs. If you need suggestions write your National Office.

Georgia Warm Springs Foundation

GRADUATE COURSE

Physical Therapy and Occupational Therapy in the Care of Poliomyelitis

This course is open to graduates of approved schools of physical and occupational therapy. Such graduates must be members of the American Physical Therapy Association and/or American Registry of Physical Therapists, or American Occupational Therapy Association.

ENTRANCE DATES: First Monday in January, April and October.

COURSE I—Emphasis on care of convalescent neuro-muscular disease with intensive training in functional anatomy, muscle testing, muscle reeducation and use of supportive and assistive apparatus. This course is complete in itself.

COURSE II—Three months duration with Course I prerequisite. Emphasis on care of severe chronic physical handicaps with intensive training in resumption of functional activity and use of adaptive apparatus.

IN-SERVICE TRAINING PROGRAM—Fifteen months duration at salary of $225 per month plus full maintenance. This program includes training in Course I and II.

TUITION: None. Maintenance is $100 per month. For scholarship to cover transportation and maintenance for Courses I and II, contact National Foundation for Infantile Paralysis, Inc., 120 Broadway, New York 5, New York. (Scholarships require two years of experience.)

For further information contact:

Robert L. Bennett, M.D., Medical Director

Georgia Warm Springs Foundation
Warm Springs, Georgia

Burdick DIATHERMY EQUIPMENT
TAILORED TO YOUR PRACTICE

Microwave

The MW-1 Microtherm® for *directed* deep heating. Ease and convenience of operation contribute to the popularity of this unit.

Short Wave

The MF-49 — a conventional short wave unit; may be employed with contour applicator, cable, air-spaced electrodes, cuff technic, or for minor electrosurgery.

Portable Short Wave

The D-54 offers portability in a unit with adequate power at low original and upkeep cost.

See your Burdick Dealer

or write us for complete information.

THE BURDICK CORPORATION

MILTON, WISCONSIN